1: Métraux--136 E-5 (1929) 1930 SF10 Chiriguano SF10

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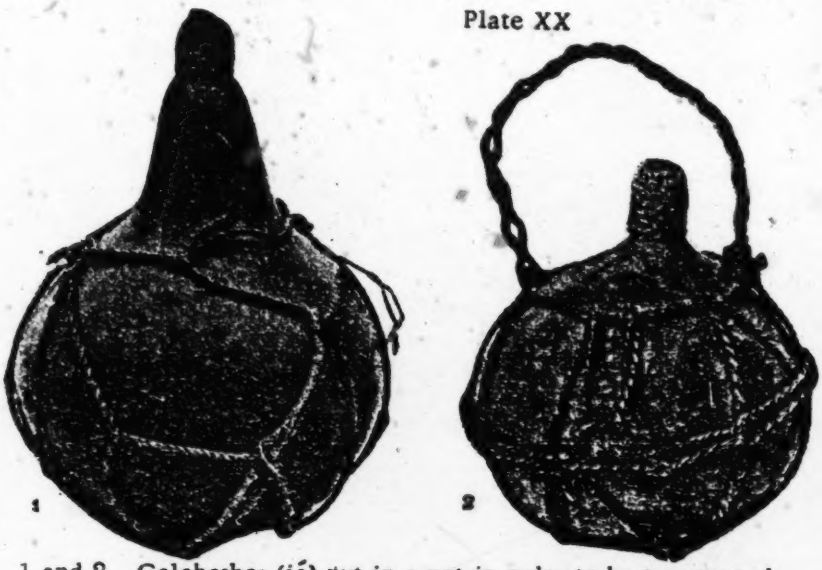
Plate XX



1 and 2. Calabashes (iá) put in a net in order to be transported or hung in the hut. Prov.: Saladito and Ivu. (1/3 nat. size.)

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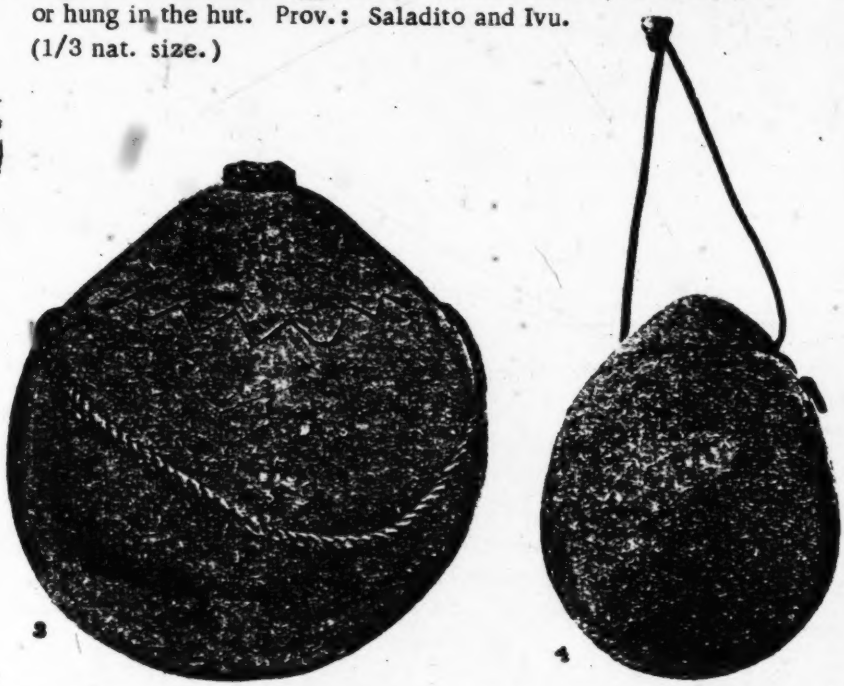

3. Calabash with lid cut out in star shape. Prov.: Saladito. (1/3 nat. size.) 4. Calabash with automatic closing. Prov.: Ivu. (About 2/5 nat. size.)

/375 cont./

Calabashes

415 In each Chiriguano village calabashes are as abundant as pottery (see Fig. 47 /see p. 139 /). The huts are full of them. They are of every shape and size, from the spoons we spoke of to the big basins in which the kāwi is distributed on feast days.

[286] The calabashes which are ovoid or gourd-shaped are generally enveloped in a kind of rudimentary net of vegetable fibers or leather thongs, which allows them to be carried in the hand or hung (1). In them is put either water, or grain

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1. Nordenskiöld (10, p. 97) has given the list of the South American tribes who put their calabashes inside a net to carry or hang them. This contrivance is widespread on the continent and its distribution is certainly greater than that indicated by Nordenskiöld, but travelers generally take only slight interest in such details, which are nevertheless important. The Kaingúa of Paraguay encompass their calabashes with wembé bark just like the Chiriguano (see Ambrosetti, 2, p. 716).

415 and seed, or roasted flour, or finally roucou or kalasapa powder saved for feast days (Plate XX, 1 and 2; Plate XXI, 3 and 4).

[322] Some calabashes are provided with a lid which the Indians make by cutting a calotte with star-shaped edges in the still green fruit, and this then forms a hermetic closing. The lid is fastened on by means of a small cord which, when pulled, suffices to close the calabash /376/ (Plate XX, 4 and Plate XXI, 2). Gourds whose opening is small in diameter receive a fragment of a shelled ear of corn as a stopper. /Figs. 42-47 appear here./

[12] Painted, pyrographed, or incised calabashes will be the object of a special study.

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Figs. 42-43. Wooden spoons (karuha or iwira-karu). No. 42 comes from Caruruti and 43 from Nawirenda. (1/4 nat. size.)

Fig. 44. A bignoniaceous or an asclepiadaceous fruit whose shell cut in half is utilized by the Chiriguano as a cup or spoon. Prov.: Caipipendí. (2/5 nat. size.)

Fig. 45. Calabash cut in half to serve as a spoon. Prov.: Machareti. (1/4 nat. size.)

Fig. 46. Ladle carved out of a calabash. Prov.: Tintapaw (upper Pilcomayo). (1/7 nat. size.)

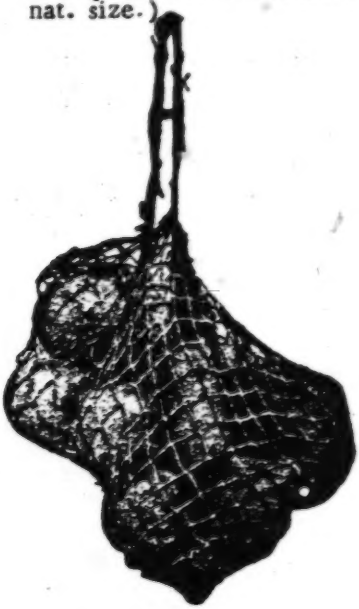

Fig. 47. Reserve calabashes hanging in a net inside a Chiriguano hut. Ibopeyti.

/431 cont./

Chapter VIII

Weaving

286 (177) Weaving is a very widespread industry among the Chiriguano. Unfortunately, at the present time its products are commonplace and, since they have been using aniline dyes (1), often very ugly.

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1. The Chiriguano used to extract blue dye from a plant they call kaa-howi, that is to say, "blue grass." They also used to grow it. In order to color their tiru (large sleeveless bag slipped on over the tipoy, of the same shape but less ample), they dipped them into a decoction of this grass. Sometimes also they used to add coloring woods, such as palo soto or quebracho, to this bouillon. The leaves of a tree which easily reaches a height of eight to ten meters, the iwira kaa-howi, also furnish a blue dye, but for that they must be young and the tree must be in bloom.

With piari, black resin which exudes from the trunk of the algarroba (Prosopis), Chiriguano women blacken the tiru which they had dyed blue. (Diccionario Chiriguano-Español y Español-Chiriguano, etc., pp. 16-17 and 173.)

286 (291) (177) Most of their ponchos are copied from those of the Bolivian half-breeds.

/432/ The type of loom prevalent among the Chiriguano is the one which has been given the name Arawak loom. Plate LXXII 1/4 gives an idea of it. Two forked sticks are set in the ground. They support two /Fig. 87 appears here/ parallel crossbars, one of which, the lower one, is a pestle of hard and heavy wood. The warp threads are rolled around them, but at each circuit turn back on themselves after going over a /433/ small cord stretched parallel to the ground. Once the cloth is finished, this string is removed, and in an instant the piece of cloth, which until then formed an endless band, opens up (Fig. 91). 2/3

1/4 [See P. 214--Analysis]
2/3 [See P 295 -- Analysis]

/433 cont./

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Fig. 87. Chiriguano woman getting ready to spin. Caruruti. (Photo. A. M.)

286 The reed of our European looms is replaced here by an /Fig. 88 appears here/ interlacing of threads which grasp one thread of the warp, then the other, alternately.

286 413 The woof is passed through with the help of a shuttle whose motion back and forth is facilitated by a weaver's sword (iwirapé) which separates the warp threads. This latter instrument is used to tighten the cloth each time the woof has passed through. A [239] mammalian metatarsal bone sharpened to a point (Fig. 92) or a small pointed or spindle-shaped stick (Figs. 93 and 94) permits

/433 cont./

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Fig. 88. Chiriguano girls spinning. Masaví (Igüembé Valley). (Photo. A. M.)

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413 moving the front /434/ warp threads back each time they have been crossed with the help of the reed. The woman who has just passed the woof through grasps this dagger firmly and with a sharp blow raises the threads of the warp after pulling on the reed. Difficult jobs, probably the execution of some /Fig. 89 appears here/ complicated figures, are accomplished with a wooden needle, which unfortunately I never saw used.

/434 cont./

286 The Chiriguano have their loom in common with many tribes
171 of tropical America, and they doubtless were already acquainted with it in Paraguay, at least in a more rudimentary form. In some Chiriguano villages looms of the Inca or Quichua /Quechua/ type, that is to say, horizontal ones, can be seen. The warp is then fastened to a small cord along a piece of wood and the cloth is rolled around as it is produced.

286 Headbands and belts are woven with looms of a type similar
294 to the one just described. The warp threads are fastened to a loop of cotton attached to a hut post. As the fabric is made it is rolled around two small sticks or two ears of corn attached to the lower end of the warp (for this type of loom, see Nordenskiöld, 10, Fig. 4, p. 175).

29 I am reproducing in Fig. 95 a tsumbi headband. These orna-
30 ments have now become very rare, and only a few old men still wear them. Our specimen is dyed with natural colors.

291 Every Indian woman who lives outside the influence of the
[178] missions still wears the tipoy, that is, a kind of long sheath which they fasten on the shoulder nowadays with a safety pin and formerly
[286] /Plate LXXII appears here/ /435/ with a thorn. In olden times these tipoy were woven by the Indian women on looms of the Arawak type. They were of cotton and dyed blue-black. /Fig.
[439] 90 appears here./ Today it is almost impossible to find a woman whose tipoy is not made of chamalote, a kind of cheap cotton cloth which the Syrians and half-breeds sell at a high price to our Indians. In the Caipipendí valley /Fig. 91 appears here/ I met two old women who still kept the tipoy of olden times. They would not
[126] give it up to me for any price. At Caruruti, an old fellow desirous of striking a good bargain sold me his wife's at a very /436/ high price in order to buy brandy for himself. It was very necessary to celebrate Easter fittingly.

[178] The shirts (tiru-kumbaè) which the men formerly sported exist no more except in the memory of the old men.

[See P. 278--Analyst]

1: Métraux--274 E-5 (1929) 1930 SF10 Chiriguano SF10

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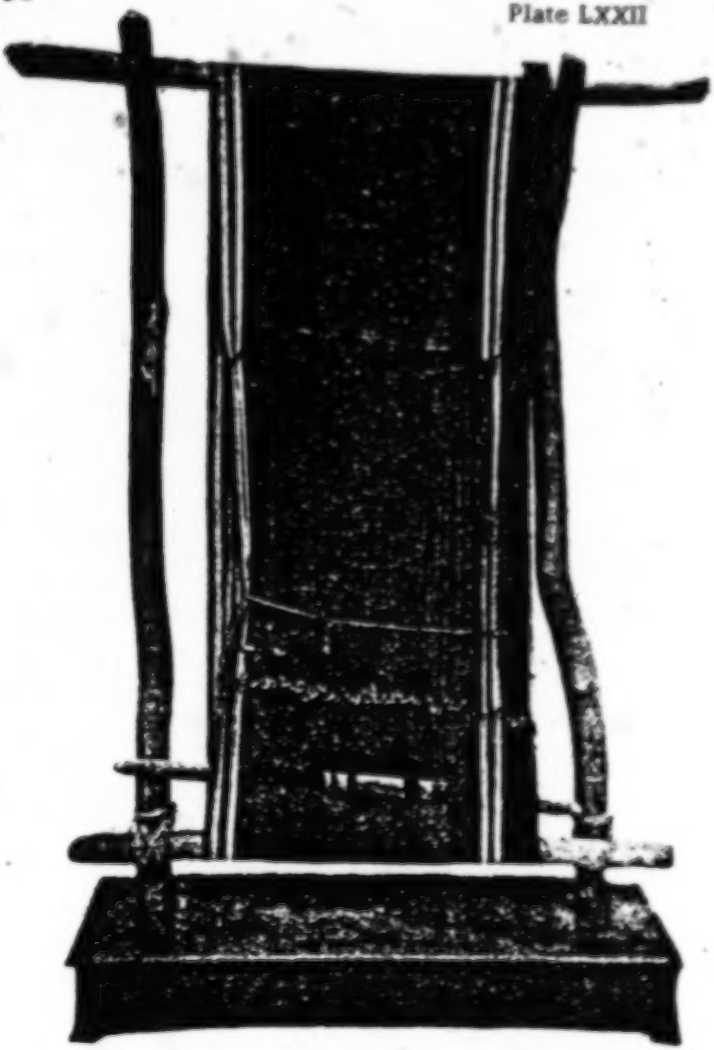
Plate LXXII



Chiriguano loom of the type called "Arawak." Prov.: Ivu.
(1/14 nat. size.)

1: Métraux--275 E-5 (1929) 1530 SF:0 Chiriguano SF:0

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Fig. 90. Drawing indicating how the spindles are arranged inside a Chiriguano hut. They are threaded into the holes made along a bamboo which is hung against the walls of the habitation. (1/9 nat. size.)

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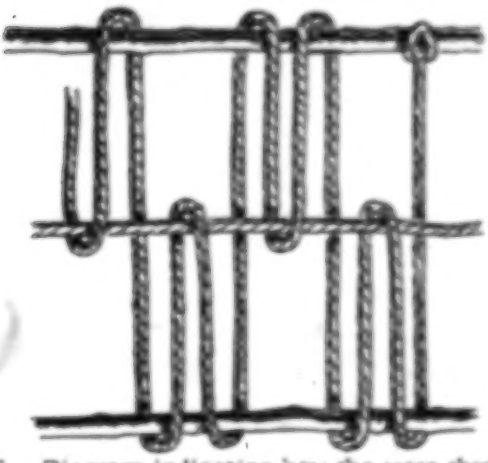

Fig. 91. Diagram indicating how the warp threads are arranged on a Chiriguano loom of the "Arawak type" (from Nordenskiöld).

In Museum--276 6-5 (SC9) 1950 SF10 Chiriguano SF10
Modern Quechua SE24

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Modern Chiriguano fabrics show almost no originality. They are generally plain, and, if they present some linear motifs, these are servilely copied from models coming from the Andean region. The Quechua /Quechua/ fabrics, prototypes of those of

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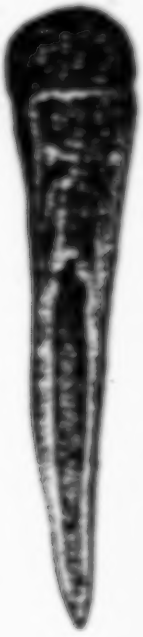

Fig. 92. Metatarsal bone of a mammal, carved in the shape of a dagger, which the Chiriguano women utilize to cross and then tighten the warp thread. Prov.: Ivu. (1/2 nat. size.)

Figs. 93-94. Awls (kaguna) for crossing and then tightening the warp threads. Prov.: Salado Grande. (2/3 nat. size.)

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The Quechua /Quechua/ fabrics, prototypes of those of the Chiriguano, are nevertheless of better quality and greater richness of ornamentation. In addition to purely geometric designs they are often decorated with small figures representing animals or human beings.

Tupi-Guarani SL6
Tupinamba SO9
Guarani SM4
Chane SF8

/436 cont./

animals or human beings. There is nothing like that among the Chiriguano. The simplicity /437/ of their fabrics forms a striking contrast with the richness and variety of the decoration of their pottery. Their inferiority in this respect is far from corresponding to the skillfulness which is their wont in all their activities. It is enough to see the admirable pieces of work executed by little Chiriguano girls in the missions to realize what they would have been capable of if historic traditions had not held them away from this art. Their distant Tupi-Guarani ancestors were acquainted with only rudimentary forms of weaving, and it can be asserted that /Fig. 95 appears here/ this industry remained foreign to all the Tupi tribes which did not undergo the influence of a nation more civilized than they. The Tupinamba of the Brazilian coast apparently practiced only the double-thread technique (Doppelfadentechnick) by means of which they used to make their hammocks. The ancient chroniclers note the use of the tipoy among the ancient Guarani of Paraguay, which is an indication of the existence of weaving among that subdivision of the Tupi family. Their present-day descendants, the Kainguá /Caingua/, could pass for good weavers to judge by the fineness of the several fabrics which have been collected among them. These are for the most part wide belts which they pass between their legs and knot around their loins. In reality, weaving is in its beginnings among them, /438/ as is shown by their loom. It is only a simple frame around which the warp threads are coiled. The woof is passed through, thread after thread, as in darning.

No doubt it was the Chané who taught the Chiriguano to weave, and as they had probably not reached a /Fig. 96 appears here/ very high level in this art, they could only transmit to their successors and suzerains, the Chiriguan, a still little-developed technique, which the latter have scarcely improved on.

/438 cont./

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The contrast between a highly evolved pottery and a still rudimentary art of weaving is characteristic of the Indians of the tropical and subtropical regions of South America, at least for those who can pass for being relatively civilized, such as the Arawak and the Karib /Carib/.

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Fig. 95. Headband (tsumbi). Prov.: Yumbía. (1/5 nat. size.)

/439 cont./

p. 171 and Map 21). Their baskets being in bad shape, the Guarayú wanted to make some new ones and were very annoyed not to find in the region into which they had come the palm trees with pinnate leaves which they were in the habit of using for this purpose. Now, Guarayú and Chiriguano are brothers in race and language and emigrated at the same period from Paraguay to settle in the vicinity of the Andes. When leaving their country of origin, both were acquainted with this type of basket used by their ancestors, the Guarani, the Tupinambo of the Brazilian coast, /440/ and still favored among their first cousins from Paraguay, the Kaingué (Métraux, 2, p. 306). The disappearance of this cultural element among the Chiriguano is due solely to the lack of appropriate raw materials.

In order to make up for the absence of back baskets, indispensable to a farming people /Fig. 99 appears here/ the Chiriguano borrowed from their neighbors in the Chaco, either the Mataco or the Choroti, the carrying nets (in Chiriguano aflapoka) whose use is so widespread among the latter and is so characteristic of their civilization. Carrying nets today are in general use among the Chiriguano, and in every village each family has at /Fig. 99 appears here/ least one (Figs. 98 and 99). In spite of this wide diffusion, the Chiriguano aflapoka betrays its origin by its form and technique (see Figs. 100 and 101 /see pp. 282 - 285/), which are both found in the tribes we have just enumerated (Nordenskiöld, 9, p. 206, Technique I). Although considerably more advanced on the way to civilization than the seminomadic tribes of the Chaco, the Chiriguano do not by any means equal them /441/ in the art of making nets. The aflapoka I collected cannot be compared with the deep bags which the Mataco or the Choroti, for example, make for the same purpose. In the village of Macharetí, where Tobá live with Chiriguano, it is the former who furnish the latter with the /Fig. 100 appears here/ carrying nets they need (see Fig. 99 /see p. 282/) (1).

1. Nordenskiöld (10, p. 163, Fig. 49 A) gives the detail of the technique of a Chiriguano carrying net. This technique is not found on any

[Text Cont. over on p. 285]

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Toba SI12

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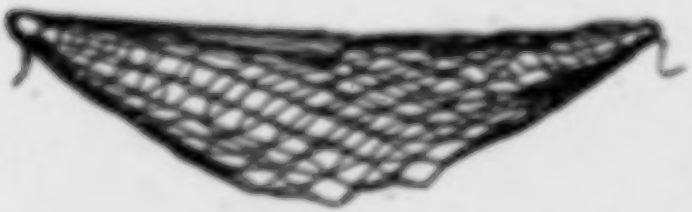

Fig. 98. Carrying net (alegoio) of the Chiriguano Indians. It is held on the forehead by a strap which is not shown in the photograph. Caraparí. (About 1/10 nat. size.)

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Fig. 99. Toba carrying net used by the Chiriguano Indians of the Machareti mission. (About 1/10 nat. size.)

Is Méraux--282 E-5 (1929) 1930 SF10 Chiriguano SF10

/461 cont./

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Fig. 100. Technique of the net of Fig. 98 (Technique I, according to Nordenskiöld, 9, p. 208).

286 /In. 1 cont./ of the alapoke I brought back
482 from the Chaco. I suppose it is a question of
191 a carrying net which the Chiriguano might have bought from Chaco, who, with the Ashluslay and the Mataco, seem to be the only ones to use this technique. The technique we show in Fig. 101 is known to the Ashluslay, the Choroti, and the Tapiete. Nordenskiöld (9, p. 208) does not mention it among the Toba, where it nevertheless exists, as the alapoke of Fig. 99 testifies.

/441 cont./

194 177 286 482 [439] Everything thus leaves us to suppose that, in the early period of their settling on the western confines of the Bolivian Chaco, the Chiriguano procured by barter the carrying nets intended to replace the back baskets they had used until then. It was only later that they learned to make them themselves, adopting only the simplest and easiest of techniques besides. Thanks to this example we can catch alive the causes which have motivated the adoption of a new cultural element after the disappearance of another which rendered the same services. For that, two factors have come into play, the physical environment and the ethnic one. There was adaptation and borrowing at the same time. This fact also proves that a relatively civilized people never hesitates to appropriate the inventions of more barbaric tribes when they find some advantage in it.

285 19 The present poverty of the basketwork industry among the Chiriguano does not imply that it is insignificant and worthless. Perhaps before the decline of this nation it was more widely represented in each village. I was able to observe that the disappearance of basketwork /442/ went along with the influence of the white men. But, for the reasons I have given above, I do not believe that at any time there could have been found among the Chiriguano that abundance of objects made of basketwork which travelers noted among the Indians of Guiana or the Amazon basin. Formerly, when the ancestors of the Chiriguano were still living in Paraguay and Brazil, they possessed basketwork identical with that of the tribes inhabiting the regions I have alluded to. Proof of it is furnished by the survival among the modern Chiriguano of various types of baskets, fire fans, and sieves, of which we find /Fig. 101 appears here/ the exact equivalent only in Guiana and the Amazon basin. As we shall ascertain in the course of this study, the identity between these two ethnic areas is perfect from this point of view. The only difficulty is to know whether in this case it is a matter of the remains of an industry peculiar to the Chané Indians of Arawak origin, whose influence upon the Chiriguano was considerable, or whether this basketwork only continues that of the ancient Guarani emigrants. In my opinion CCC the question does not need to be asked. The basketwork of the

C 285 171 174 /442 cont./ The basketwork of the ancient Guarani or Tupinamba did not differ essentially in technique, form, or processes of ornamentation from the basketwork of the north of southern America (Métraux, 2, pp. 249-255). It must have offered more than one point of similarity with that of the Chané, and we must consider the modern basketwork of the Chiriguano the heir of the basketwork common to these two /443/ nations. Let us notice in passing that the basketwork of the populations of tropical America has a certain unity. Nevertheless,

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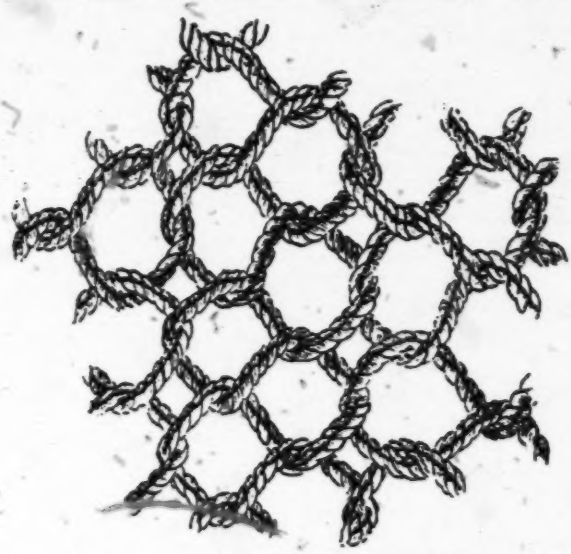

Fig. 101. Technique of the net of Fig. 99 (Technique V, according to Nordenskiöld, 9, p. 208).

C 285 171 174 it was in the Guianas that it reached perfection.

After their great migration to the foot of the Andes, the Chiriguano seem to have adopted basketwork of a new technique, which doubtless was unknown to their ancestors and racial brothers in Paraguay and Brazil. This technique is characteristic of all the baskets I am putting under the heading of wicker work /named in English/ in the following pages. As we shall see, this technique also exists in the Guianas, and it is possible that it was brought into the Bolivian Chaco by the Arawak nation of the Chané. The center of dispersion of the Arawak must be

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/468 cont./

412 171 At La Paya, Ambrosetti (6, Fig. 254, p. 484) discovered combs cut out of a small wooden board and some composite combs. Instead of simply recording the coexistence of two different types of combs /Plate LXXXVII appears here/ /469/ in the same place, a very natural phenomenon by reason of the heterogeneous character of the culture of La Paya, Ambrosetti puts forth the strange hypothesis that these combs served for carding wool, without taking the trouble to inquire whether this instrument was known in pre-Columbian times.

303 322 462 412 The making of combs, like all wood carving, is an essentially masculine job.

412 174 The table on Plate LXXXVII indicates my idea of the morphological evolution of the different forms of combs which I have collected.

Chapter XII

Furniture

352 [114] Since the diverse cultural elements which constitute the furniture of the Chiriguano have been completely studied by Nordenskiöld (10, pp. 8-22), I shall limit myself to mentioning them here, insisting only on several details. /Fig. 124 appears here./ /See p. 338./

[342] Let us enter a Chiriguano hut. The door we open is a kind of screen of reeds or a cowhide hardened in the sun. Daylight penetrates the interior through this opening. The only important [513] piece of furniture is a wooden cot (Fig. 125), a kind of bedstead generally occupied by two persons between whom one or two children come /470/ to slip in somehow or other. Nor do the Chiriguano hesitate to sleep on the ground on an oxhide, which they spread out in front of their house. On the upper Pilcomayo, in nearly all the huts one can /Fig. 125 appears here/ /See p. 339./ see one or two hammocks which serve either as seats during the day [286] or as cradles for small children. Their technique, that of the [177] double thread (Doppelfadentechnik), continues an old Guarani

[Text Continues on P. 338]

/470 cont./
352 and Arawak tradition. Some hammocks, not many, are crudely
[286] woven. The threads which /Fig. 126 appears here/ compose
[197] them are of wool; formerly they were doubtless of cotton (Plate XXXVIII).

352 It is a delicate business to persuade a Chiriguano mother to
854 sell you the hammock of her nursling. She fears that an /Plate
754 LXXXVIII appears here/ /471/ evil-intentioned person will profit by the fact that the fabric is impregnated with urine, in order to indulge in magical practices which would make the newborn child die.

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Fig. 124. Chiriguano hut. Saladito (upper Pilcomayo). (Photo. A. M.)

353 Along the walls are lined up vessels of all dimensions
[415] which /Figs. 127 and 128 appear here/ are kept there for the drinking feasts; some contain seed, others serve as linen cup-
[352] boards or provision bags. On the walls, generally in the four corners, hang reed screens or hoops made of palm leaves /Fig. 129 appears here/ which take the place of shelves (Figs. 126 and 129).

[TEXT Continues on P. 342]

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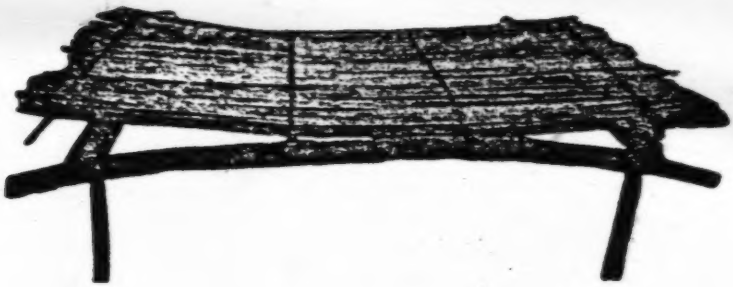

Fig. 125. Wooden cot (catre), Chiriguano Indian bed. Prov.: Ivu. (About 1/6 nat. size /sic/.)

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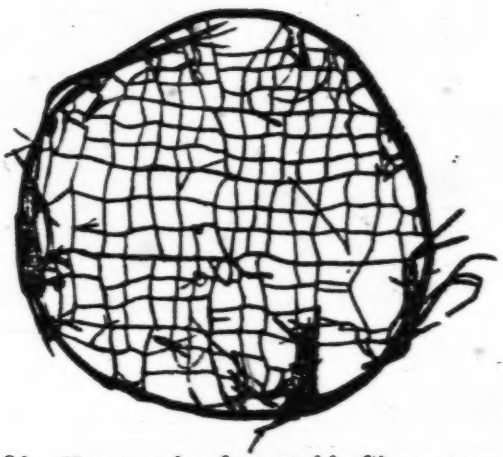

Fig. 126. Hoop made of vegetable fibers, to serve as a shelf. (About 1/8 nat. size.)

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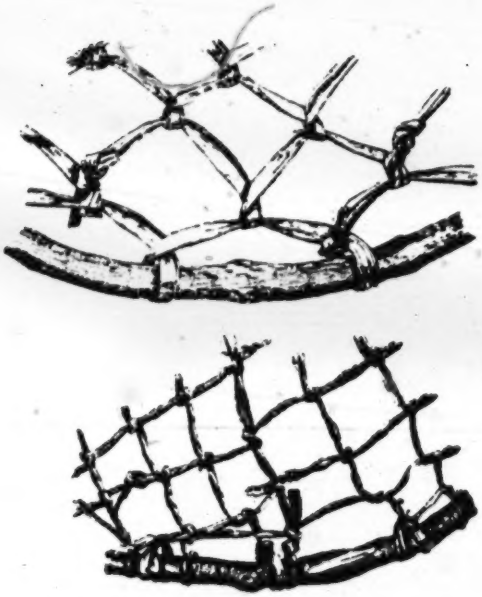

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Fig. 127. Sketch indicating the technique of the hoops of the type of the one in Figure 126.

Fig. 128. Deer foot dried in the sun to serve as a hook for hanging. Prov.: Saladito. (About 1/5 nat. size.)

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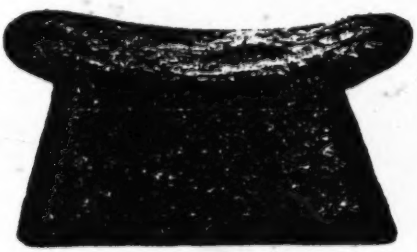

Fig. 129. Double-runnered bench. Prov.: Ibopeytí. (About 1/7 nat. size.)

2:Métraux E-5 (1929) 1948 SF10 Chiriguano SF10 ●
Chané SF8

are based on a triangle surmounted by a scroll, which is multiplied in countless variations.

Women potters (pl. 41, *top, left,* and *bottom, left*) tempered the clay with crushed potsherds and built up their vases by coiling. They painted them with several kinds of ocher and with black obtained from rosin.

Spinning and weaving.—Among the *Chiriguano,* wool is more commonly used than cotton for textiles, but *Chané* fabrics are generally of cotton. The fibers are spun with a drop spindle weighted with a clay whorl (pl. 42, *center*). Although garments are in part Andean in shape, the loom remains of the vertical type. Formerly, indigo was the favorite native dye; today aniline dyes have entirely replaced it. The ornamentation of the fabrics is limited to a few stripes.

Netting.—Fishing nets and carrying nets are made by means of a wooden gage in a reef-knot technique.

Basketry.—Fans, round baskets with overlapping lids, and sieves are twilled with palm leaves in the best Guiana fashion, but wickerwork basketry is very common. No large baskets for carrying or storing food are made.

Gourds.—The painted, incised, or fire-engraved (fig. 61) gourds (*Lagenaria siceraria*) used as cups are, after pottery, the best expressions of *Chiriguano* art. The motifs are mainly geometrical, with occasional realistic representations.

FIGURE 61.—*Chané* calabashes. *Left:* Specimen with lid (approximately ¼ actual size). *Right:* Pyrograved specimen (approximately ⅓ actual size). (Redrawn from Nordenskiöld, 1920, fig. 50 and Métraux, 1930 b, pl. 62.)

2:Métraux E-5 (1929) 1948 SF10 Chiriguano SF10

Chane SF8

Chieftainship was inherited in the male line, but the title was bestowed on a chief's son only if he were worthy of it. There are only a very few cases of women ruling a *Chiriguano* group, but the *Chané* remembered the names of several women leaders. According to a genealogy of a *Chané* chiefly family recorded by Nordenskiöld (1912, p. 229), power was inherited successively by the brothers and sisters of a deceased chief before it passed to his son. In the village visited by Nordenskiöld, the brother's son of the chieftainess was the actual ruler, but her son by a commoner was the heir apparent. This system of succession is probably the same as the one prevailing among the eastern *Chané* (*Guana*).

Chiriguano chiefs of the past wore conspicuous ornaments and were entitled to carry the yanduwa, a pole with a bunch of feathers tied at the end, and a carved stick.

Property.—A plot that had once been cultivated by a man belonged to him and to his descendants, but could not be alienated by him. In order to insure new ownership rights, a *Chiriguano* would plant a few pumpkins on the land which he intended to clear.

Justice.—Thieves were expelled from the community or sometimes were flogged. A man convicted of adultery could lose his property. Murderers were sent into exile, unless the victim's family had time to kill him first. Wronged individuals often took justice into their own hands and challenged the offender to a duel. The settlement of old accounts occurred generally during drinking bouts.

LIFE CYCLE

Childbirth.—Soon after childbirth, the mother went to the river to wash and smear herself with urucú. Both parents observed various food taboos. The father rested for a few days on his bed and refrained from any work, lest he harm the baby. One twin, as well as any malformed infant, was killed (Campana, 1902, p. 72).

Puberty.—Menstrual flow was attributed to the bite of a mysterious serpent. At her first menses a girl was hoisted in her hammock to the roof of the hut, where she was compelled to stay for 5 days without uttering a word. Then she remained for a month or more enclosed in a corner of the hut. Her hair was clipped short, and she was put on a diet of boiled maize. During her seclusion, she spun and wove wool and cotton so that she would be diligent for the rest of her life. Meanwhile, she became pallid, which was greatly admired when she returned to normal life. Henceforth, she used the affirmative "é, é" instead of the childish "ú, ú."

In ancient times, the confinement of a pubescent girl lasted for several months or even for a year[1] (Campana, 1902, p. 86).

[1] According to Father Chomé (1819 b, p. 202), the pubescent girl was hoisted in her hammock near the roof. During the second month, the hammock was lowered, but the confinement ended only in the third month, when a group of old women entered the hut with sticks to start a symbolic hunt for the serpent that had bitten the girl.

/27 cont./

137 824 [262] which is purple when mature and opens into three sections when ripe. It has an insipid sweetness, but one which both whites and Chiriguano like. The color is a bright purple, it is abundant, and in certain years of scarcity it is a resource for human life in the months of February and March. In Chiriguano it is called "Ñacagüina." The carapari is another cactus, taller than the preceding ones, which also has its congenial land, /28/ since it is not found everywhere. It is admirable for its tall, striated leaves or branches, ash-gray and armed with spines; its fruit is very pleasant and also sought [342] by foxes. The trunk is soft like that of all cacti; nevertheless [759] doors are made of this wood and are durable enough. The pulp of the trunk is used medicinally to cure liver ailments, etc. They say that it is even good for goiter. There is another species of cactus which grows to some 20 or 25 centimeters; it is round and thick, striated and armed with spines. [524] In Chiriguano it is called "Zipepe." The children, as we shall see, make wheels by cutting off its spines, and, making it roll, they use it as targets for their arrows. Finally, there is another which is trailing and long, covering the ground where it grows and making the place impenetrable. This has and [262] produces a very delicious fruit which is called "Tapiacaru" in Chiriguano.

TILANDSIA. -- This plant is known to the Chiriguano [342] by the name of "Caraguata guasu." Its special place is the [283] hills, and among them it has some more congenial to it; it [492] grows well enough, and its leaves are extraordinarily broad and long and ash-gray in color; in the middle there is a thick stalk which rises quite high and is good wood for house rafters; from the crushed leaves they make cord and from these are made first-rate halters for tying up animals in the rainy season. [286] The Toba and even the Chiriguano make a kind of net which [171] they call chipa or "añapoca," which is very useful, inasmuch [482] as the women can carry any weight in a bag of that kind; from [227] the same they make nets so as to be able to fish in the rivers, and these are pieces of work which would attract attention in any part of the Old World.

/184 cont./

323 [237] the force of the heat and remains over the paintings like a binder, without which they would disappear the first time it was used. The Taragüirisi remains on the vessels like a light coat of rubber and the white of the Tovanti becomes opaque (2).

2. When a pot is slightly damaged, they heat it in the fire and on the inside and outside apply the Taragüirisi, and it is as good as before.

/185/ Textiles

286 462 [294] Another important occupation of the Chiriguano woman is weaving the Asoya for her husband, brother, or son, and the Cutama for herself. For this she prepares the wool or cotton, spins it opposite the way the mestizo and European women spin, and then bleaches it and finally dyes it.

286 In order to weave, they set up two tall, slender forked sticks in the house, with two sticks across, one above and one below, and arrange or place the threads vertically, and then sit on the ground and begin to run the woof through, thread by thread, which they hit with a pointed stick of soto wood called Piuca. This, to be sure, is time consuming, if the threads are fine, but, on the other hand, the work is very durable.

291 286 231 249 [184] [177] Ponchos, Asoya, are of two types, one of wool and one of cotton; the first are common from the right bank of the Parapiti River southward and the second from the left bank northward, because in the first region sheep are plentiful, and in the second, cotton fields. Formerly, before the whites introduced cattle into the region, cotton was cultivated everywhere, and from its product the men were dressed for ceremonies in their Tíru and the women in the Mandu, which I shall discuss in the following chapter.

/185 cont./

291 The Cutama, which I have mentioned, has been replaced
286 by the Tipoi of the same form as the former, but made of
[198] chintz, blue drill, linen, merino wool, or corduroy; they also weave covers for their beds, but these are without colors, and an occasional man has a crude loom, like those they use in Europe with a comb, manufactured by themselves (1).

291 1. The Mandu is attached to both shoulders by means of two large silver pins which correspond to the luxury of the garment; on ordinary days they pin the Tipoi with large thorns, but these have been replaced by needles, pins, and metal clasps.

462 Other tasks of the women are carrying water, maize, and field produce for the kitchen and making chicha and algarroba mead, which we shall discuss below, putting an end to this chapter for now.

000 /186/

Chapter Seven

Chiriguano Clothing and Adornments

Introduction

/The first paragraph on p. 186 is omitted in the translation. Page 186 continues as follows./

Clothing, which should remind us of the fall of our first parents, their misfortunes, their sufferings, hardships, and their death, our hardships, misfortunes, and death as a consequence of that disobedience, is today used as an object of extraordinary luxury. All of humanity has converted clothing into an object of vanity, and there is no nation, no tribe, however abject it might be or might consider itself, which has not abused or is not abusing clothing and adornments. /The last paragraph on p. 186 and the first paragraph on p. 187 are omitted in the translation. The following illustration appears opposite p. 187. The remainder of page 187 follows./

/187 cont./

000 What did Adam obtain through his sin? Confusion and being thrown out of Paradise in order to be subjected to all the
[186] miseries of life. We have all inherited the pride of the first Adam, and this capital sin causes us to commit errors and more errors, causes the principle of humility to be lost, and causes the favored one to look with disdain on one who is inferior; only religion can remedy these evils, but Catholicism has not penetrated everywhere, and among the Chiriguano, formerly savages in every sense of the word, it is relatively new, for which reason the pride with which they deprecate their inferiors, looking at them disdainfully, is not altogether uprooted; they do not make use of their clothing and adornments, and they strive to appear equal to the whites, whom they consider superior (?).

> 2. The simplicity of dress of the American Catholic women when they go to church is worthy of all praise. Would that they always dressed in this way and that the fashion of hats had never appeared! In Europe they are so large that they bother the spectator in large gatherings, and in the daily services they interfere with the view of the holy ceremonies, and, consequently, they attend without piety.

Clothing

302 The Chiriguano wears his hair long and barely ever cuts the hair near the forehead, either for adornment or so that it may not interfere with his vision, because he does not tie it
301 up like the women and the Quechua Indians. He wraps it
302 around his head and ties it with a band that his wife, mother,
● [286] or sister weaves for him. This band is called Yapicuana; it is 1.25 or 1.50 meters long and 5 centimeters more or less in
[177] width. It is of cotton or wool and comes in various colors, but at the present time most of them, where civilization has not sufficiently penetrated, use one of red baize, which they

/192 cont./

291 [286] Others who are not hunters, and hunters themselves when they are not engaged in this activity, fasten the breeches at the waist with a belt that they call Cuacuá; their wives weave it; it is made of wool and painted in various colors. They all have one, except some of the old men.

415 [281] [482] Another of their conveniences is the Urupucu, long bag in its literal translation. The Urupucu seems to be the Chiriguano's own; it is of tanned wild boar or pygmy deer hide, narrow at its opening, which they close with a little cord, gathering the opening; they sew around, and through the seam they pass the cord, which is rather long so that it can hang from one shoulder and be passed to the opposite armpit like a horseman's escarsela. This bag is used as a container for carrying provisions on a trip. In it they put boiled meal, parched corn and charqui. This is done by warriors, hunters, and travelers, and, well secured, as has been explained, it is never lost.

415 484 312 Finally, there is no lack of another convenience for carrying water. In order not to experience the effects of burning thirst, he has a type of gourd with a hard shell like that of the matés; he empties it, removing the pulp and seeds, making a hole in the middle, puts it in a kind of net of cords, leaving one or two larger meshes near the hole placed at the top, where the Chiriguano himself makes a small circle, fills it with water, stops it up with a maize cob, and during a trip uses it sparingly, if he has foresight, or else he may not have it when he needs it more (2).

2. The Indians who are governed by corregidors in the region of the Gran Chaco traveled with their respective tarí or tutuma on their expeditions to the desert of Paraguay.

/194 cont./

302 The flower of the Guambero, purslane, has the same properties as the carasapa, but it is little used, and they content themselves with just sticking the leaves on their faces, and this only at carnival time, the result being a gay set of dancers. Finally, the Indians have a fourth cosmetic, which they call Mboiurucu, or achiote of the viper. It is red, and they assert that it is food for the viper, hence its name. They use it by rubbing it on their cheeks, which makes them a bright red.

292 [527] [178] As noted above, the ancient Chiriguano man, Ava, and the Chiriguano woman of long ago, Cuña, at solemn fiestas and on days /195/ of general rejoicing, after having adorned their faces and washed their persons, wore the tiru and the mandu, respectively (1).

1. If the Indian dressed in a tiru does not have breeches, guasupi timbiao, he wraps his body from the waist down with a shorter poncho which comes to the calf. It is also of cotton, and the women weave it. It is called Tirupeé, or sheath that warms, "alias" wrap /abrigo/.

[286] [462]

The Tiru is a kind of long poncho, from which it differs because of the two openings that it has near the wrists; the hands are put into said openings and remain free for movement, and, the tiru fastened to the wrists, nothing impedes the motion of the one wearing it. It is spun and woven by the women, and the raw material is cotton. The tiru differs in color, some are black, others dark red, and others blue. The first color is obtained with black mud, Tuñúú, mixed with the resin of the algarroba, Piari; the second, with sotillo bark, Urundeibusu; and the third, with wild indigo, Caogũi (2).

[286] 292 386 [824]

2. Today this is all purchased commercially, and the indigo plant, which is abundant in certain places, is ignored. They buy the indigo and the other colors, just as they buy for their poncho and their tipoi.

[437] [178]

/223 cont./

881 868 867 283 The young girl receives her mother's injunctions without uttering a word, without making any comment, respects the advice and admonishments in the same silence and more than that of a mute, because she hears and keeps quiet without making any movement at all, without raising her eyes or moving her head. She begins her work as soon as her mother withdraws; she combs the wool or cotton with her fingers, cleans it of /224/ whatever dirt it may contain, and begins to spin, a duty learned from early childhood (1).

[785]

1. The maiden who fasts can only work in the place where she is enclosed; therefore she cannot help her mother even to clean the house.

881 868 867 ●286 When her mother sees that she has enough to make some small article, she directs the weaving, and the first thing that is made is the Hapicuana for her father and then another for her mother, with which they are very happy, and even their friends congratulate them on the work of the daughter, for whom they, of course, profess sympathy and respect as a sacred person, because she is in the period of fasting or hiding, since both things are done when these maidens reach puberty (2).

2. The same word, Yicuacu, is used for the fasts ordered by the Church for neophytes. There is no other word in the language.

881 885 During the first month or first moon, Yasi, the seclusion or hiding is the most rigorous, because the symptoms of puberty should manifest themselves two times in order that they may be considered true ones, that is to say, the Chiriguano do not believe that a woman is ready for marriage until after it has been ascertained that her menstruation is regular. This, which for women is their relief and their health, is called Hugüi in adults, but for pubescent girls the first as well as the second is called, as I have already said, Yimundía.

Schoolmeesterij E-6,4 (1908-1909. 1912) 1920
SF10 Chiriguano SF10 ●
Chane SF8

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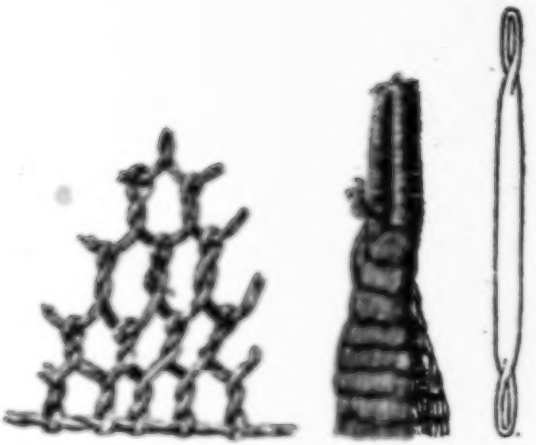

C
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352

Fig. 49 A. Technique in a carrying-net. Chiriguano. R. M. E. 51. 1/2
B. Technique in the hammocks Chiriguano. R. M. E. 1056. 1/2.
C. Frontlet to a carrying-net. Chané. Rio Parapiti. R. M. P. 127.
D. Technique in C.

Rijksmuseum Bd E-4,7(1908-1909, 1912) 1910
SF10 Chiriguano SF10
Chaco SF9

XXIII.

Various kinds of handicraft besides pottery.

Knitting-technique.

C Ce 286 Respecting the occurrence of different kinds of knitting technique among the Chiriguano and Chané I have little to add beyond what was mentioned in the English edition of Part I of this work.

C Ce 286 352 ¶171 The hammock-netting is the usual technique which gives the so-called barred hammocks (See Part I) which are widely distributed in all S. America north of El Gran Chaco. They are found almost universally where hammocks occur. Occasionally one sees among the Chiriguano and Chané bags knitted in the technique which in Part I I denoted by No 5. These bags are never made by themselves, but are obtained from the Mataco, Tapiete, or some other Chaco tribe. During my archaeological excavations at Igüembe I found a piece of pottery with impressions of knitting evidently done in this technique.

C Ce 284 286 283 The carrying-nets and most dip-nets of the Chiriguano and Chané are made with reef-knots. The Chiriguano have also dip-nets knitted with sheet-knots. For carrying-nets and dip-nets they Chiriguano and Chané generally use caraguatá bast. »Yuchan« is seldom used[1])

Spinning.

C Ce 283 Regarding the spinning of the Chiriguano and Chané there is little to add beyond what I mentioned in Part I.

[1]) *Chevizia insignis.*

374

X 3. Piaroa Rio Ventuari, Communication by letter from Prof. Koch-Grünberg.

Baskets with lids which are opened like an ordinary cigar-box.

A. Graves on the Peruvian Coast. G. M. Very common in all collections of peruvian antiquities.

Some baskets from the Chiriguano have shapes which make them look like imitations of earthen vessels. (Fig. 53 C and D) Sometimes they even have an ear. Chiriguano and Chané baskets are very seldom ornamented.

Metal-work.

The only metal-work now occurring here is that the Chiriguano sometimes make their tembetas (lip-buttons) of tin themselves. Whether the Chiriguano and Chané, before coming into contact with the Whites, themselves performed metal-work, I cannot say.

Stone-work.

The Chiriguano and Chané do not now work stone.

Wood-work.

For their wood-work the Chiriguano and Chané now use exclusively tools obtained from the Whites.

Weaving.

Among the Chiriguano I saw two types of loom; among the Chané only one.

The loom found among the Chiriguano and Chané is characterized by the completed product forming a ring (seamless) N. B. if so desired. The warp is set up as shown in the outline drawing. (Fig. 55.a) and in the sketch of a hand-loom from the Chané. (Fig. 55.c). When the ring is

[text continues on p. 176]

Schwedenbibl. B 4,5 (1868-1869, 1913) 1920
BP10 Chiriguano BP10
Chaco BP0

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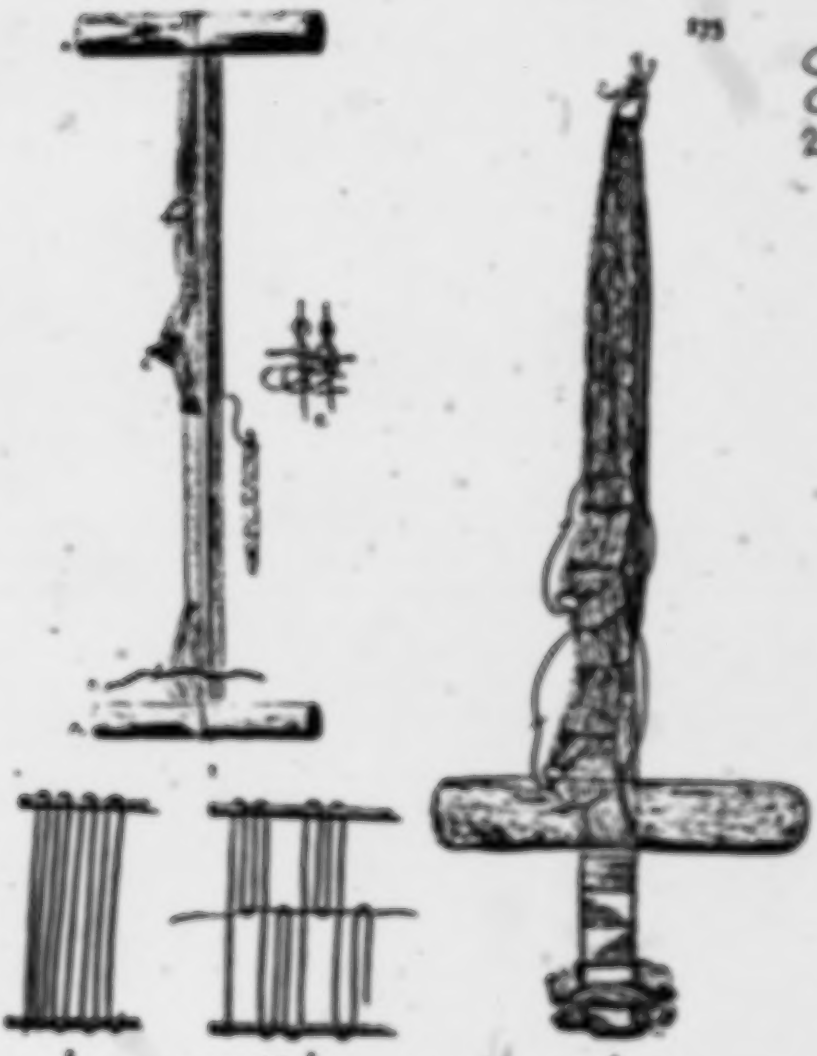

Fig. 33. 1. Sketch of a hand-loom from the Chaco. Rio Pareplitl. R. M. P. 3000. 1/2
2. Outline drawing showing how the warp is set up in the looms from the Caurays and many other tribes.
3. Outline drawing showing how the warp is set up in the loom fig. 33. 1.
4. Hand-loom from the Chiriguano. G. M. 13. 1. 358. 1/2

completed, it is opened by drawing out the string B, a piece of cloth being thus obtained which nowhere needs browning. If the string B is allowed to remain and is woven into the cloth, the ring-shape is retained and it can also be used as a tipoy. (Fig. 22). This is a particularly ingenious way of setting up the warp. I have beams warped in this wise from the Chané, Chiriguano, Mataco, Vilela and Chorote. In BOLTEN's collection there is a loom from the Ijca Indians on which the warp is also set up in this way. The string B is, however, replaced by a stick. There are also looms on which the warp is set up as depicted in the schematic illustration (Fig. 33 c) i. e. the completed work must be in the shape of a ring, unless the threads are cut off. I have looms warped thus from the Guayaki (Paraguay) and the Botocudo Indians. Here belongs also the loom described by MAX SCHMIDT from Paresi-Kabixi, as also a loom from N. W. Brazil described by KOCH-GRÜNBERG.

There are unfortunately too few descriptions of looms from the S. American Indians to render it possible to draw up satisfactory maps of the distribution of different types. The map 13 here appended is intended to show the distribution of looms on which the warp is set up in such wise that the completed work forms a ring, or can form one if it is desired. According to information kindly supplied by MAX SCHMIDT, there are no looms on which the warp is set up in such wise that the completed work is ring-shaped in the extensive collections from pre-Columbian Peru at the Museum of Ethnology in Berlin. When writing Part I of this work, I thought, like MAX SCHMIDT, that looms whose completed product is ring-shaped were an Arawak culture-element. In order to prove this, a larger material of looms is needed than has hitherto been collected. It is, however, likely that this kind of loom is now only found in northern S. America and, farther south, only east of the Andes. Looms warped so that the completed work must form a ring appear to have a more easterly distribution than those

Schmidt S-A, V (1908-1909. 1913) 1910
M10 Chiriguano M10
Chaco M8
South American Indians 52

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171*

warped so that the completed work may form a ring or not according as it is desired.

Table 18.

«Arawak» loom. Map. 15.

C
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171*
S
102
286

2. Ashluslay. Photo in my collection. G. M.
4. Chiriguano, R. M. V. 1037.
5. Chané, R. M. P. 344.
6. Mataco, R. M. M. 1230.
8. Lengua, Grubb P. 67.
20. Parexi, Max Schmidt (4) P. 214.
21. Caingué, Ambrosetti (7) P. 711.
22. Yuracáre, R. M. V. 598.
31. Emerillon. Goeje (1). Pl. XVI.
36. Ijca, Bolinder (4) P. 149.
37. Motilon, Bolinder (4) P. 149.
41. Panoerna, G. M. 15. 1. 806.
48. Indians Northwestern Brazil. Koch-Grünberg (1) Bd (2) P. 211.
62. Charrúa, R. M. Ch. 178.
65. Ranté, R. M. C—B. 33.
IV. Terena, Max Schmidt (4) P. 214.¶)
1 C. Paes. Peyote de Fabrega Pl. VI.
2 M. Wapisiana. Farabee Pl. VII.

The loom only occurring among the Chiriguano is a hand-loom which is depicted here. This loom is much more akin to the usual Peruvian loom and must be regarded as a western culture-element. (See fig. 55.4.) East of the Andes the Peruvian loom is unknown except among the Mataco.¶)

C
Ce
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171*

Appertaining to the loom outfit of the Chiriguano and Chané are weaving-implements of bone and wood (fig. 56).

¶) Cadenet, Bonnassie (2) P. 107. Warp set up as in the loom fig. 55. 1.

¶) See Part 1. Fig. 62.

5:Nordenskiöld E-5,4(1908-1909, 1913) 1920
SF10 Chiriguano SF10
Chane SF8

C Ce 286 *171

Weaving-bodkins of bone are found among the Quichua. LEHMANN-NITSCHE depicts one from Puna de Jujuy[1]) and I found one in an excavation at Ollachea,[2]) Peru. COBO[3]) mentions their use by the Incas.

C Ce 286 531 Ce [177]

The large fabrics woven by the Chiriguano and Chané are not adorned with figures. On the other hand, it is not rare to see ribbons with woven human figures and other ornaments (fig. 57). The Chané on the Rio Parapiti are said to have learnt these ornaments from a Quichua woman who had immigrated to these parts. The Chiriguano girls are never seen to wear the ornaments they have learnt to embroider at the mission schools. These are flowers and the like, generally European ones, which interest the Indians very little, and are too strange for their fancy. This does not prevent the work they do at the mission schools being excellently done. At the mission schools the Indian girls also sew and crochet lace. But they never make these things once they have left school.

C 797 871 531 286 177

C Ce 286

Fig. 56. Weaving-implement of wood. A and B from the Chiriguano. C from the Chané.

A = R. M. E. 48. 1/4. B = R. M. E. 146. 1/4. C = R. M. P. 21. 1/4.

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[1]) Pl. IV. C5.

[2]) (3) Pl. 3. Fig. 12.

[3]) »Van apretando y tupiendo la tela con un hueso puntiagudo y liso» .... COBO T. 4, p. 204. COBO gives a description of the Peruvian loom. P. 203.

5tNordenskiöld E-5,4(1908-1909, 1913) 1920
SF10 Chiriguano SF10
Chane SF8
South American Indians 53

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102
286
171*
S
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286

Map. 15. The distribution of the »Arawak» loom.

● = Warp set up as shown in fig. 55a.
■ = » » » » » » » 55b.
● = It is not exactly known how the warp is set up.

/242/

Chapter Sixteen

On the Life of the Chané and Chiriguano Indians (Continuation)

Art and Industry

The Chiriguano and Chané are tribes whose art-industry is on a very high level. If one visits one of the huts of the white settlers in these regions, one will not see many products of native industry, not much of their own culture. I know of absolutely nothing that these people are capable of doing which can compare with the pottery and the weaving technique of the Indians. One thing is certain, the more "civilized" the Indians become, the less they accomplish in the way of art and industry. They do not learn much more from the whites than how to make and drink liquor. Indian art-industry is gradually disappearing here, the more the Indians come in contact with the whites, but it is not transformed. It remains largely purely Indian until its final destruction. One industry, however, is now in the hands of the whites, namely, the metal industry. The silver ornaments which, for example, the Chiriguano and Chané use are made by the smiths in the villages of the mountain regions. The half-white or Quichua /Quechua/ Indian population which we come across in the mountains west of the land of the Chiriguano and Chané Indians is quite skilled artistically. The weaving technique in particular is very highly developed there. The Chiriguano and Chané undoubtedly learned a great deal from the west.

Thus we find the <u>serére</u> pipe[2] (Fig. 120) characteristic of the Chiriguano in collections from the coast of Peru (1); /Plate

1. <u>Serére</u> also occur among the Lengua, Ashluslay, Chiriguano, Chané, Churápa, and Yuracáre.

19 appears here/ /243/ the pin for fastening women's clothing

[2] [A flute-like musical instrument--Analyst]

[TEXT continues on P. 94]

Ce /245 cont./
323
531 The coarser vessels, as well as all cooking vessels, are
decorated with only finger imprints and clay loops put on them.
ee The finer vessels are subsequently painted (see Pl. 19 /see p. 93/).
[237] /246/ With a brush made of agouti hairs (1) the decorations are
[413]

1. Dasyprocta.

Ce
[386] painted in white, dark brown, and black. The white pigment
is a kind of earth (kaolin); the others are made out of slate and
Ce sandstone. They paint freehand and compose the decorations from
323 memory, not from models. Wood, maize cobs, and cow excrement are heaped around the vessel. The fuel is lighted and must burn with a vigorous fire for a quarter of an hour or, if the vessel is large, even longer (Fig. 122).

Ce If the vessel has been painted, it is varnished with resin,
[314] "taraviruti," which is collected from a Mimosoideae, and with
[824] resin from the palo santo (see p. 93 /untranslated; Palosanto is identified there as Bulnesia Sarmienti/). The former gives a yellowish polish; the latter looks like greenish-black glaze.

Ce When a pot is made, it is baptized before it has cooled,
[789] so that water will boil rapidly in it.

C In Maringay's village individual vessels were painted
531 with a mixture of urucú or some other color and a vegetable fat.
323 I was unable to see how this latter was prepared.
386

The Chiriguano and Chané women are skillful weavers.
Ee The material for the Indian weaving is, as a rule, cotton and
●286 sometimes sheep wool.

Ee Since large quantities of cloth are imported by the whites,
[439] native weaving is disappearing more and more. Thus, I did
[177] not see any looms among the Chané in the Itiyuro valley, and native woven goods were very rare.

Ee As a rule, all the weaving of these Indians is without
286 ornamentation, or else this is very simple. The girls in the
531 missions learn from the monks how to embroider all kinds of
[797] flowers, such as roses, violets, etc. They do this superbly.

Ee
286
531
[797]

/246 cont./

Strangely enough, after they leave the sewing class, the Indian women cease to use these decorations. It would be better if the missionaries taught the Indian children /247/ decorations connected with their imaginative life. The results of their work would then be entirely different.

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A couple of generations ago a few Chané women learned from a Quichua woman how to weave decorations which

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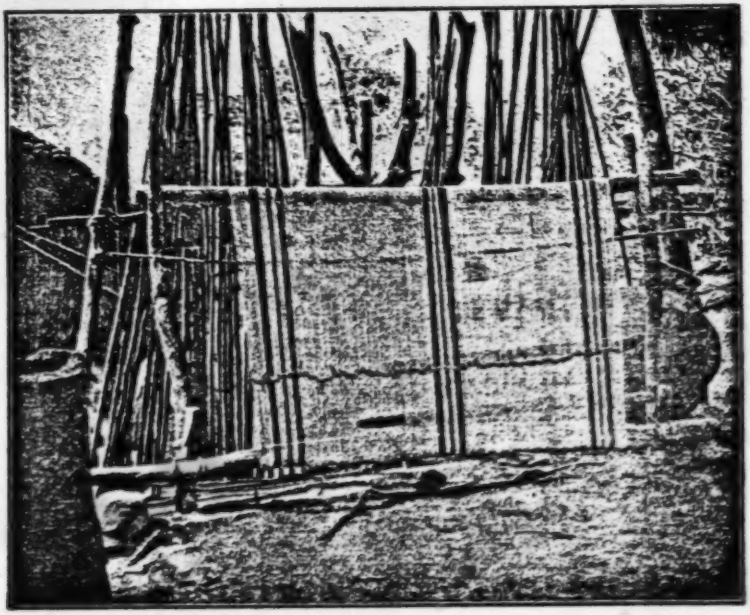

Fig. 123. Loom. Chiriguano.
Tihuīpa.

Ce
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[171]

one still sees on various Chané fabrics. They were stylized animals and human beings. Plant ornamentation does not make much impression on the Indian women. Animal and human figures stimulate their imagination, and they teach them to their children.

Ee 439 177 /248 cont./

When we present a collection from the Chiriguano and Chané, we must not forget that, through trade between the tribes, they have obtained many things from the Mataco, Toba, Choroti, and Tapiete; otherwise we would have a mistaken conception of the great difference /249/ between the material culture of the Chaco tribes named here and the Chiriguano and Chané.

Ee 171

If we compare the material culture of the Choroti and Chané with that of the Choroti and Ashluslay likewise described here, we must remember the following. The Chiriguano and Chané produce basket work -- the Choroti and Ashluslay never. The former know how to paint clay vessels before firing, which is unknown to the latter. The Chiriguano and Chané never make bags out of

Ee [285] C Ce [323] Ee [286] C [415] [531]

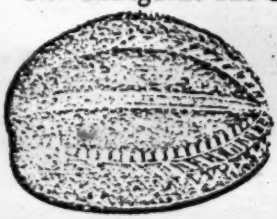

Fig. 126.
Decorated calabash bowl.
Chiriguano. Yacuiba. 1/5.

caraguata, etc. If, moreover, we compare all the products made by the Chané and Chiriguano with those of the Choroti and Ashluslay, we find that most of them are entirely different. The Chaco Indians probably learned how to make certain things, such as the serére (Fig. 120) and huiramimbi pipes (Figs. 36 /omitted in the translation/ and 80), from the Chiriguano, but this is relatively insignificant.

C [177] Ee 177

We see here how two cultures can exist side by side for hundreds of years without mingling.

Ee 101

If we follow the Rio Pilcomayo down toward the mountains, we first come across the Quichua /Quechua/ culture, then come the Chiriguano and Chané, and after that the Chaquensic /Chaco/ culture which embraces equally the Mataco, Toba, Choroti, and Ashluslay, as well as the Lengua and other tribes in the Paraguay Chaco. These three cultures are entirely different.

C 352 [126]

/22 cont./

Hammocks (Chiriguano: kĭa; Izozó: iní) in the Collection

I. A. 448. Chiriguano. Wool. Length 230 cm. Width 75 cm. (Fig.102b).
I. A. 449. " " " 105 cm. " 60 cm.
I. A. 450. " " " 285 cm. " 60 cm. (Fig. 102a).

Ce [126] [352]

I. A. 360. Gift of Mr. Teodoro Rojas. (Chané of the Parapití.) From Caraguatá. Length 320 cm. (Fig. 102c).

C 352 286

The hammocks that I acquired among the Chiriguano in Machareti were all made of wool, as were the hammocks that Métraux saw among the Chiriguano (92). According to

92. Métraux I, p. 470.

Nordenskiöld (93), Chiriguano hammocks are commonly made

93. Nord. 2, p. 12.

C 286 352 126

of cotton and only incidentally of wool. Of the three large hammocks in the collection, two (I. A. 448 and 449) were plaited with the technique very common among the Indians of South America, which in my publication on the Guarayú, which appeared in this same journal, I called "double thread plaiting" (Doppelfadengeflecht) (94), while one (I. A. 450) shows the

94. Cf. Fig. 102b /see p.174/.

Ce 286 352 [126]

structure of a piece of weaving. (Cf. Fig. 102a) From the Chané the Museum's collection has hammock I. A. 360, which Mr. Teodoro Rojas acquired among the Indians of the Parapití River and presented to the Museum. (Fig. 102c.) This hammock was made of caraguata fibers and with a netting technique. According to Nordenskiöld, in addition to such hammocks of caraguata fiber the Chané have others made of cotton, on the technique of which we have no information.

C Ce 286 352

With regard to the details of these Chiriguano and Chané hammocks, I refer to the chapters dedicated to the description of the technique of plaiting and the technique of preparing netting.

/31 cont./

C Ce 291

is brought over the head so that the slit is in the direction of the middle axis of the human body and the middle of the poncho across the shoulders, one part hanging in front and the other behind. Thus the distance between the lower edge of the poncho and the shoulders of the man who is wearing the poncho corresponds to half the length of the poncho when stretched out. Only in the case of two of the Izozó woolen ponchos is half the length equal to the width. I shall deal with the manufacture and decoration of these ponchos in the chapters on the technique of weaving and art.

Ce 29 [286] [513] [126]

The Chané of the Parapití River still often wear mantas woven of wool, which they also use to sleep on or to cover themselves with when they are sleeping (138). I have acquired

138. See Nord. 1, p. 202.

nine of these mantas from the Izozó, four of which had been made from ponchos, the slit in the center of them having been closed by sewing. Among the other four mantas which had been made as mantas from the first, the relationship between the length and the width can vary greatly. There are some nearly square and others three times as long as they are wide.

C 291 286 296

From the Chiriguano in Machareti I obtained only one piece of woven material which corresponds to these mantas, and it was already much mended.

Mantas in the Collection

C Ce 29 126

I. A. 585.	(Chiriguano.)	Of cotton.	Length	1.38 m.	Width	1.27 m.
I. A. 816.	(Izozó)	Of wool.	"	2.20 m.	"	0.60 m.
I. A. 817.	"	"	"	1.80 m.	"	1.20 m.
I. A. 818.	"	"	"	0.68 m.	"	0.60 m.
/32/						
I. A. 824.	"	"	"	1.22 m.	"	1.30 m.
I. A. 826.	"	"	"	1.28 m.	"	0.44 m.
I. A. 827.	"	"	"	1.40 m.	"	0.92 m.
I. A. 828.	"	"	"	1.56 m.	"	1.66 m.
I. A. 829.	"	"	"	1.27 m.	"	1.25 m.
I. A. 831.	"	"	"	1.74 m.	"	1.24 m.

/28/

Macana in the Collection

411 [126] I. A. 517. (Chiriguano.) Length 64 cm. (Fig. 38).

[191] The wooden macana, acquired from the Chiriguano, is provided at its upper end with a broadening distinctly delimited from the handle (cf. Fig. 38) and in that respect corresponds to the macanas that we know from various Chaco tribes, for example, the Toba, but it does not correspond to the Chiriguano macana shown in a drawing by Nordenskiöld (197).

197. Nord. 2, Fig. 9.

The latter is about the same length, but it does not show the clear broadening at the handle, its upper end being only slightly broader. According to Nordenskiöld, the Chiriguano [224] do not use these macanas except for hunting pigs (198).

198. Nord. 1, p. 183.

[126] Slings (tamomboka) in the Collection

I. A. 508. Chiriguano. Length of the middle part of net 15 cm.
I. A. 509. " " " " " 14 cm. (Fig. 36b.)

The two slings acquired from the Chiriguano seem to be exactly alike. They consist of a middle part made with the [286] net technique with caraguata-fiber string which terminates at each end with a cord. One of these two cords ends in a simple [284] knot and the other in a small loop. These slings are like the Chané ones shown in drawings by Nordenskiöld, while the manufacture of the middle part of the Chiriguano sling shown by Nordenskiöld is different (199). The Chiriguano in contact

199. Nord. 2, Fig. 7, A.

8: Schmidt--115 E-5 (1935) 1938 SF10 Chiriguano SF10
Chane SF8
Izozo

Plate XIV

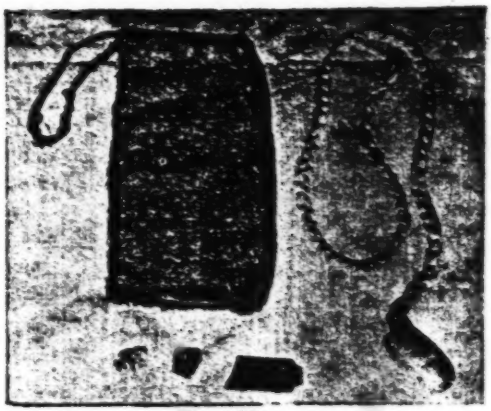

Fig. 40

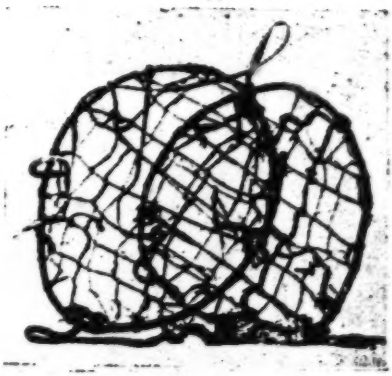

Fig. 41

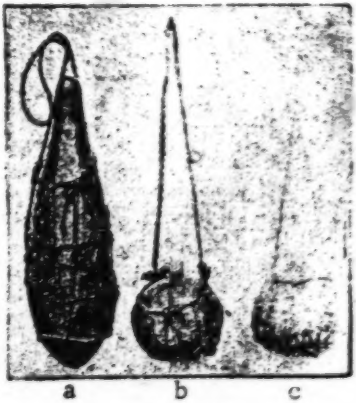

Fig. 42

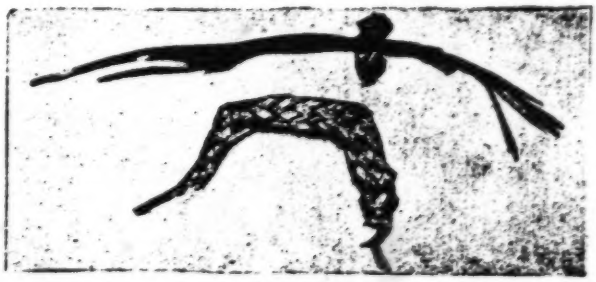

Fig. 43

/The captions are on p. 117./

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C
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Plate XXV

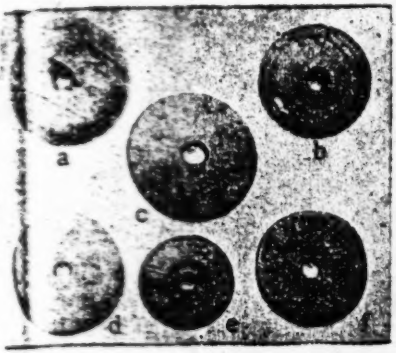

Fig. 87

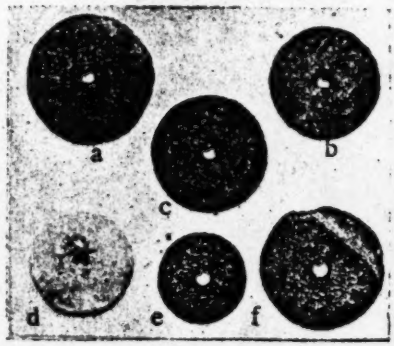

Fig. 88

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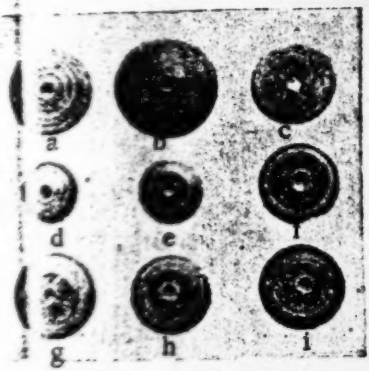

Fig. 89

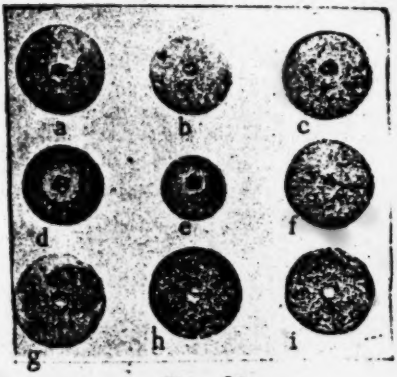

Fig. 90

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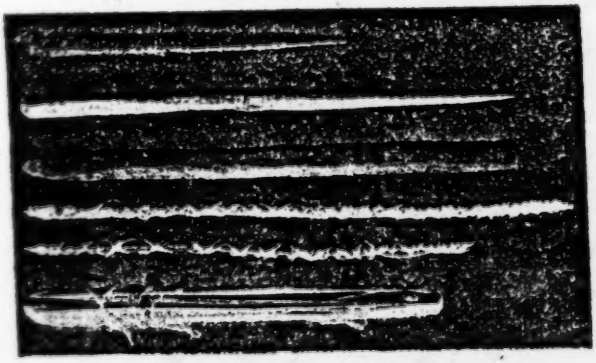

Fig. 91

/The captions are on p. 148./

8: Schmidt--148 E-5 (1935) 1938 SF10 Chiriguano SF10 ●
Chane SF8
Izozo

/Captions for Plates XXIV and XXV./

C
Ce
283

Plate XXIV

Fig. 85. Spindles, a-d (Izozó), e Chiriguano): a (I.A. 724), length 51 cm.; b (I.A. 703), length 41 cm.; c (I.A. 716), length 41 cm.; d (I.A. 691), length 40.5 cm.; e (I.A. 475), length 42 cm.

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Fig. 86. (I.A. 725 a and b) Basket (height 12 cm.), cotton seeds, raw cotton, and a spindle with thread, and a ball of cotton thread (Izozó).
b (I.A. 726), ball of cotton thread (Izozó), dia. 8.5 cm.

C
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Plate XXV

Fig. 87. Wooden spindle whorls (Chiriguano): a (I.A. 478), dia. 6 cm.; b (I.A. 474), dia. 5.2 cm.; c (I.A. 480), dia. 6 cm.; d (I.A. 471), dia. 5.3 cm.; e (I.A. 479), dia. 4.3 cm.; f (I.A. 477), dia. 5.2 cm.

C
283
323

Fig. 88. Spindle whorls, a-c of baked clay, e-f of stone (Chiriguano): a (I.A. 486), dia. 6.2 cm.; b (I.A. 487), dia. 5.3 cm.; c (I.A. 483), dia. 5.3 cm.; d (I.A. 481), dia. 4.8 cm.; e (I.A. 482), dia. 4.2 cm.; f (I.A. 484), dia. 5.7 cm.

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283
323

Fig. 89. Baked clay spindle whorls (Izozó): a (I.A. 705), dia. 4.7 cm.; b (I.A. 687), dia. 5.2 cm.; c (I.A. 700), dia. 4 cm.; d (I.A. 702), dia. 3 cm.; e (I.A. 696), dia. 3 cm.; f (I.A. 690), dia. 4 cm.; g (I.A. 692), dia. 4.5 cm.; h (I.A. 689), dia. 4 cm.; i (I.A. 695), dia. 4.2 cm.

Fig. 90. Baked clay spindle whorls (Izozó): a (I.A. 724), dia. 4 cm.; b (I.A. 708), dia. 3.8 cm.; c (I.A. 709), dia. 4.3 cm.; d (I.A. 721), dia. 3.7 cm.; e (I.A. 722), dia. 3.3 cm.; f (I.A. 720), dia. 4.4 cm.; g (I.A. 711), dia. 4.3 cm.; h (I.A. 713), dia. 4.2 cm.; i (I.A. 710), dia. 4 cm.

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413

Fig. 91. Implements for weaving: a (I.A. 500), implement for arranging the warp threads (Chiriguano), length 20.5 cm.; b (I.A. 674), implement for arranging the warp threads (Izozó), length 30 cm.; c (I.A. 673), wooden sword for weaving (Izozó), length 30 cm.; d (I.A. 727), shuttle with cotton thread (Izozó), length 33.3 cm.; e (I.A. 728), shuttle with cotton thread (Izozó), length 27 cm.; (I.A. 513) reel (Chiriguano), length 25 cm.

/63 cont./

Ce 285 basket, which appears among many other Indian tribes of South America, in dealing with the corresponding baskets of the Guató Indians, and I refer here to the pertinent descriptions and diagramatic sketches made to explain the manufacture of this type of basket (267).

Ce [113]

267. Max Schmidt: Indianerstudien in Zentralbrasilien, pp. 221-227.

GO 824 285 Because the Guató use the pinnate leaves of the acurí palm as /64/ material for these baskets, they are able to leave the leaflets needed for plaiting the basket attached to the stem, which thus forms the upper edge of the basket. The Izozó, not Ce 285 having pinnate palm leaves available, have to use the peltate [824] leaves of the caranday. They must remove the leaflets of these in order to use them for the making of baskets. Therefore these baskets begin at the upper edge with a kind of braid, which unites the separate leaflets for plaiting the walls of the basket. As Figures 96 and 97 show, this braid begins and ends with a knot. These two knots are found at the side of the basket or at the middle of the wall and are in most cases tied with a thread wrapping to prevent an interruption of the rim at that place. The strips coming out of the braid are interwoven in such a way that a sleeve form results, the opening of which, below, is closed by a double braid whose two ends at the two sides of the basket pass through the wall and come out again on the outside of the wall, each one ending in a knot. The ends of the braids of the bottom of basket I. A. 683 (cf. Figure 97 /see p. 158/ form at the same time the handle of the basket. The handles of other baskets of this kind consist of a string or a strip of leather.

C Ce 286 [301] Braids like or similar to those which sometimes form the handles of the baskets described above are used by the Chiriguano and the Izozó in other cases as well, such as sometimes in the fringes of the fajas and especially for making the middle section of the women's hair bands previously mentioned.

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/64 cont./
286 There may be variations in these braids according to the difference in the number of skeins plaited and the number of strips which are passed each time by one strip of the braid, as Figures 139-141 show /see p.201/. The greater the number of skeins in the braid, the more the form of one string of the braid takes on the appearance of a band. Cf. Figure 32 a and b /see p. 62/.

Ce
[171] To the second of the four kinds of plaited objects into which all the plaited objects of the South American Indians can be classified belong those which are plaited in such a way that one row of sticks, threads, or similar things are united so that a double thread passes the row, continuously or at certain intervals, and in such a way that the two individual threads of the double thread encircle in each rotation one or more of the little sticks or threads of the row.

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352
513
286 Among the objects plaited by this technique there are two Chiriguano hammocks and one Izozó saddle covering in the collection.

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126 Objects Plaited with Double Thread, from the Collection

I. A. 448. Hammock (Chirig.). Wool. Lgth. 2.60 m. Width 0.75 m. (Fig. 102b and 109.)
I. A. 449. Hammock " " " 2.05 m. " 0.60 m. (Fig. 110.)
I. A. 844. Saddle covering (Izozó) " 1.21 m. " 0.57 m. (Fig. 103b and 129.)

C
352
286 The threads of the hammocks mentioned above are made of wool and that applies not only to the warp threads but also to the double threads. The manufacture of these hammocks is explained in two schematic drawings shown in Figures 109 and 110 /see Figs. 127 and 128, p.190/. The diagram in Figures 109 /Fig. 127/ shows the place in hammock I. A. 448 where the double thread begins to pass through the row of warp threads. The arrangement of the warp threads can be explained only by the manner in which a warp of one continuous thread was made first and in the form of a sleeve, /65/ as the warp of weavings done on a loom

C 352 286

/65 cont./ is made. The double threads, when they pass through the warp threads, encircle with each loop caused by their rotation one thread of the front side of the warp and one thread of the back of the warp. Only at the side edge do they encircle, as Figure 109 /Fig. 127/ shows, three or four threads with each loop. The double thread which begins at the right side of the diagram runs through the entire width of the warp in the way shown in the diagram. When it arrives at the other side, the double thread does not turn around to pass through the warp in the opposite direction, but its ends are fastened, and at set distances other double threads pass through the warp in the same way as the first. Hammock I. A. 449 shows the same arrangement of threads and warp, and the double thread passes through the warp in the same manner, except that at the side edge too it encircles only two threads of the warp, and in this case too one thread of the front side of the warp and one thread of the back side of it. See the diagram shown in Figure 110 /Fig. 128/.

Ce 492 286

The Izozó saddle cover mentioned above shows a peculiarity inasmuch as the double threads are compressed, one beside the other, in such a way that they form a compact material in which the warp threads disappear under the double threads. Likewise in this saddle cover two warp threads are encircled by each loop of the double thread, and more threads only at the two sides. But one difference from the hammocks plaited with double thread is that the double thread, after having passed through the warp threads from one side to the other side, returns in the opposite direction, passing through the warp threads. Another peculiarity is that each of the consecutive rows of the mesh of the double thread shows an opposite direction each time, as a result of which there appears a kind of decoration on the surface, consisting of stripes. As the diagram in Figure 111 /Fig. 129; see p.190/ shows this peculiarity is produced by the special way in which the outer warp threads are encircled by the double thread.

8: Schmidt--169 E-5 (1935) 1938 SF10 Chiriguano SF10
Chane SF8
Izozo
Paressi SP19
/66 cont./
P
Cs 286 197

The Technique of Weaving

On the occasion of the publication of a Paressí-Kabichí /Paressi-Cabishi/ loom (270), I called attention to the great

P [113]

270. Max Schmidt, Die Paressi-Kabichí, Ethnologische Ergebnisse der Expedition zu den Quellen des Jauru und Juruena in Jahre 1910 /The Paressi-Cabishi, Ethnological Results of the Expedition to the Headwaters of the Jauru and Juruena in the Year 1910/, Baessler-Archiv., Vol. IV, No. 4/5, 1914, pp. 214 and 215.

similarity among all the looms known up to now among the Aruaco /Arawak/ tribes. The loom that I obtained from the Izonó corresponds in form and construction to the Paressí-Kabichí loom described and shown in a sketch by me, but it demonstrates, discounting some insignificant anomalies, a perfection which Nordenskiöld has already mentioned (271).

271. Nord. 2, pp. 174-176.

Cs 286 126

Loom and Other Implements for Weaving, from the Collection

I.A. 500. Wooden bodkin for arranging the warp threads (Chiriguano). Length 20.5 cm. (Fig. 91a.)

I.A. 513. Reel (Chiriguano). Length 25 cm. (Fig. 91f.)

Cs 286 126

I.A. 741. Loom (Izonó). Height 1.19 m. Length of the upper horizontal bar 56 cm. Length of the lower horizontal bar 57 cm. Height of the warp 83 cm. Width of the warp 25 cm. Length of the shuttle 28 cm. Length of the two swords for weaving 44.5 and 41.5 cm. (Fig. 104.)

I.A. 727.	Shuttle	(Izonó).	Lgth.	33.3	cm. (Fig. 91d.)
I.A. 728.	"	"	"	27	cm. (Fig. 91e.)
I.A. 671.	Sword for weaving	"	"	38	cm.
I.A. 672.	" " "	"	"	45	cm.
I.A. 673.	" " "	"	"	30	cm. (Fig. 91c.)

Chané SF8
Izozo
Paressi; SP19

CE 286 126 /66 cont./

I. A. 674. Bodkin for arranging the warp threads (Izozó). Lgth. 30 cm. (Fig. 91b.)

I. A. 742. Sword for weaving (Izozó). Length 123 cm.

I. A. 743. " " " " " 128 cm.

Before describing the Izozó loom mentioned in the preceding list and shown in Figure 104, we must emphasize that in this case we are dealing with a very small one. Ordinarily Izozó and Chiriguano looms are considerably larger, as has already been shown by the length and width of their fabrics. But I had to be content with a small one, because most of the larger Izozó looms were mounted on trees, a vertical post of the loom being formed by a tree trunk, and because at the beginning of my trip I was unable to carry objects too large and difficult to transport. A large Chané loom is shown in a drawing by Nordenskiöld (272).

C [286]

272. Nord. 1, Fig. 123.

CE 286 As Figure 104 shows, the frame of the Izozó loom is formed by two vertical poles and two horizontal ones. The vertical poles are provided /67/ at their upper ends with forks and are set in the ground at a certain distance from each other. The upper horizontal pole is placed in the two forks of the vertical poles, and the lower horizontal is secured to them, at a short distance from the ground, by a binding.

P 286 On the Paressi-Kabichí looms the warp is made simply by rolling one thread continually around the two horizontal poles. As a result, the warp, when ready, encircles the two horizontal posts like a ring, half of which is on the front side of the loom and the other half on the back part. From the construction of a warp formed in such a way, certain conditions of the form of the fabrics made with such a loom result. If the entire warp is utilized by transforming the entire ring of the threads of the warp, by weaving, into a single piece, this fabric necessarily also has the form of a ring or of a sleeve-like, for example, Paressi-Kabichí tipoys. But when one wishes to make a flat fabric, for example,

Chané SF5
Izozo
Paressi SF19

/67 cont./

P 286 a band. it is necessary to leave one part of the warp threads free and to cut them at that place. The fabric formed in this way has the disadvantage that it is necessary to secure the woof at both ends in some way. On the Chané-Izozó and Chiriguano looms this disadvantage is avoided by the ingenious device illustrated C Ce 286 in the diagram shown in Figure 105. The warp on this loom is not formed in such a way that the thread which forms it is simply rolled around the two horizontal poles of the loom frame. As Figure 105 shows, a string is extended between the two vertical poles at the place where the woof is to start. The thread which forms the warp first passes this extended string, passes the lower horizontal pole and then to the upper horizontal pole, again passes to the extended thread, going around it and returning to the upper horizontal pole, and thus as before until, after having already once bound the extended thread, it is fixed into the weave. Also in this case the prepared warp forms a ring, and thus the Chiriguano and Chané can manufacture with their loom, like the Paresi-Kabichí, fabrics in the form of a sleeve without a seam, of which the tipoy, so common among the women, is an example. But, as the diagram also shows, such a ring can be opened at will by removing the extended string, the result being a flat fabric whose four edges are secured by the manipulation of the same weaving operation. From the fact that the threads of the fringes of the Chiriguano and Izozó fajas end in loops, it follows also that the fajas of these Indians were woven with such a loom provided with the extended string, which was later removed.

P Ce 286 Instead of the small stick that the Paresi-Kabichí pass between the odd and even threads of the warp in order to arrange its "normal formation" so that the even threads are below and the odd threads are above, or vice versa, Izozó looms have a twisted string of caraguata fibers which passes through the warp in the same way and is secured at both ends to the vertical poles of the loom.

A. Schmidt--172 E-6 (1930) 1934 SF10 Chiriguano SF.0
Chané SF8
22023
Payeés. SF19

/87 cont./

In order to be able to form easily by a single manipulation the second formation of the warp threads, in which the even threads, which were below in the normal formation are brought up, passing the odd threads, the mechanism represented by the diagram in Figure 106 is constructed. As this figure shows, this mechanism consists of small loops of cotton thread which encircle the even threads of the warp and are tied to one another. This Inonó mechanism is different from the corresponding one of the Pareni-Kabichí loom, in that it is not provided, like the latter, with a small stick which serves to join the aforementioned loops to one another.

/88/ By pulling the warp its position can be varied so that the part of the warp which is being worked is always at the proper height and on the front side of the loom. This can also be effected by moving the lower horizontal pole of the loom frame, which the warp threads are always pulling.

In order to be able to pass the woof thread alternately through the two divisions of the warp threads formed by the string and loops mentioned in the foregoing, these divisions are opened by means of a kind of wooden sword, of which the collection has five specimens in addition to the two which go with the loom. Two of these measure more than a meter, since they are intended for working with much larger looms than the one shown in Figure 104. This implement at the same time is used to fix the woof thread to the finished part of the woven material after it has passed through the warp.

The shuttle, by means of which the woof thread is passed through the two divisions of the warp threads alternately from left to right and from right to left, consists of a simple little stick on which the thread is wrapped. In the list of objects in the collection, two specimens of such shuttles from the Inonó are mentioned, in addition to the one which belongs to the loom. See Figures 91 d and e.

In addition to these implements I acquired two others in the form of a bodkin and made of wood, which are used to arrange the warp threads. One of these is from the Chiriguano, and the other from the Inonó. Combs, which were used by the ancient Peruvian for this purpose, are not used by the Chiriguano or the Chané.

In Schmidt---173 E-5 (1930) 1958 SF10 Chiriguano SF10
Chane SF8

/50 cont./

In addition to this usual type of loom, there can also be found among the Chané and Chiriguano other special types which correspond to the ancient Peruvian types of looms for weaving bands. The fact that the mechanism of these looms makes possible the formation of more divisions of the warp threads, makes more variations in the ornamentation possible. Niedermichfid shows such a Chiriguano loom in a drawing (173). No doubt this kind

173. Nord. 2. Fig. 55, N. 4.

of loom is a product of the influence of the culture of the ancient Peruvians.

For different purposes, very different weavings, most of which have already been mentioned in the chapter on clothing, can be made with a loom provided with a warp in the form of a ring as described above. With regard to the measurements of these fabrics, I refer the reader to what I have already said in this respect. The material of all of these woven fabrics consists of cotton or wool threads.

Woven Goods Made on the Loom Provided with a Warp in the Form of a Ring, from the Collection

1. Tipoys. I.A. 830, 832, and 834 (Izozeño) (I.A. 830, Fig. 114).
2. Ponchos. I.A. 433-437 (Chiriguano) (I.A. 436, Fig. 118).
I.A. 810-816, 817-815, 819, 823-825, 830, 831, 833-836 (Izozeño) (I.A. 823, Fig. 117).
3. Mantas. I.A. 585 (Chiriguano).
I.A. 816-818, 825-829 (Izozeño) (I.A. 816, Fig. 130).
4. Bands of cotton for men's hair. I.A. 653-660 (Izozeño) (I.A. 653, Figs. 36b and 108; I.A. 655, Figs. 36c and 109; I.A. 656, Figs. 36d and 110; I.A. 660, Figs. 36a and 107).

/Plates XXVIII-XXXI appear here./

/51/

5. Bands of human hair for men's hair. I.A. 729 and 785 (Izozeño) (I.A. 729, Figs. 31 and 111).

[TEXT CONTINUES ON P. 180]

St Schmidt--174 E-5 (1935) 1938 SF10 Chiriguano SF10
Chane SF8
I2020

Plate XXVIII

C
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286

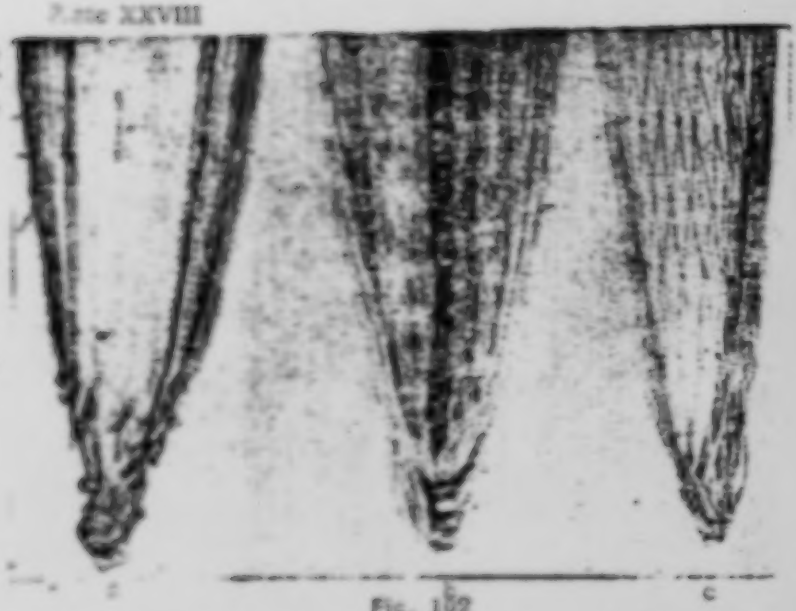

Fig. 102

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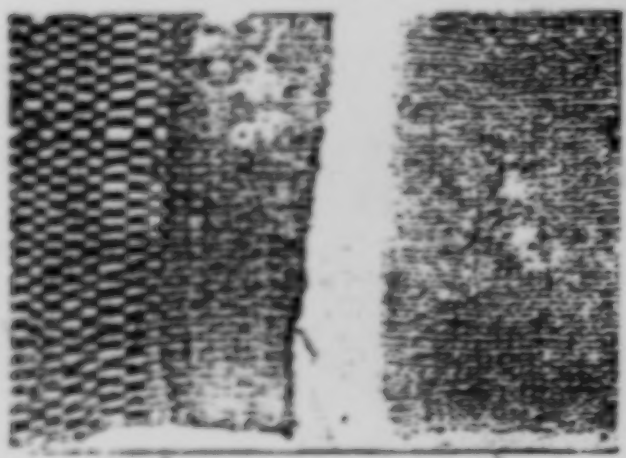

Fig. 103

/The explanations appear on p. 175./

8: Schmidt--175 E-5 (1935) 1938 SF10 Chiriguano SF10
Chane SF8
Izozo

/Captions for Plate XXVIII/

Plate XXVIII

C
352
286

Fig. 102. Hammocks:
a (I.A. 450), hammock of wool, woven (Chiriguano), length 2.85 m.;
b (I.A. 448), hammock of wool, plaited (Chiriguano), length 2.60 m.;
c (I.A. 360), hammock of caraguata, made with netting technique (Izozó), length 3.20 m.

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Fig. 103. Saddle covers (Izozó):
a (I.A. 843), woven saddle cover, length 1.42 m., width 0.62 m.
b (I.A. 844), saddle cover plaited with "double thread," length 1.21 m., width 0.57 m.

8: Schmidt--177 E-5 (1935) 1938 SF10 Chiriguanc SF10
Chane SF8
I2020

Ce
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Plate XXX

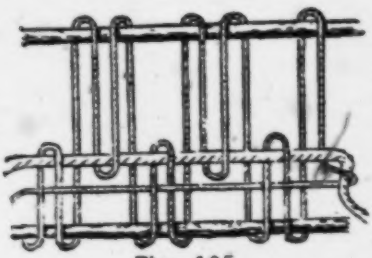

Fig. 105

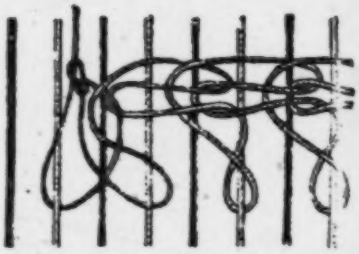

Fig. 106

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Fig. 107

Fig. 108

Fig. 109

Fig. 110

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Ce
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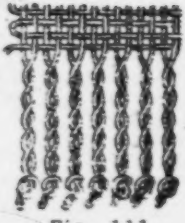

Fig. 111

Fig. 112

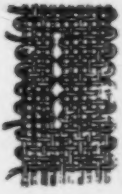

Fig. 113

/The captions appear on p. 179./

C
Ce /69 cont./
291 6. Fajas. I. A. 428-441 (Chiriguano) (I. A. 423, Figs. 119b
126 and 123; I. A. 430, Fig. 124; I. A. 436, Figs. 119a
and 121).
I. A. 803-807 (Izozó) (I. A. 803, Figs. 119c and 122).

Ce 7. Saddle covers.
492 I. A. 842 (Izozó). Of wool. Length 0.69 m. Width
126 0.67 m.
I. A. 843 " " " 1.42 m. "
0.62 m. (Figs. 103a and 126.)

C 8. Carrying bag (Chiriguano). Of wool. Length 1.07 m. Width
415 0.45 m. (Fig. 131a.)
126
[492] 9. Double bags for carrying loads on asses or horses.
I. A. 445. (Chirig.) Wool. Entire lgth. 92 cm. Width 37 cm. (Figs.
115 and 131b.)

Ce
492 I. A. 811. (Izozó) Wool. Entire lgth. 93 cm. Width 46.5 cm. (Fig. 132.)
415 I. A. 821. " Cotton. " " 94 cm. " 40 cm.
126 I. A. 822. " " " " 106 cm. " 36 cm.
I. A. 839. " " " " 97 cm. " 35 cm.
I. A. 840. " " " " 104 cm. " 36 cm.
I. A. 841. " Wool " " 92 cm. " 46 cm.

Ce Of the three tipoys in the collection acquired from the Izozó,
291 one (I. A. 820) consists of a fabric in the form of a sleeve made
286 with the warp in this form. The woolen tipoy (I. A. 832) was lengthened by sewing together two such woven pieces, one beside the other. The structure of the weaving clearly shows the thread which was extended between the two vertical poles of the loom before making the warp, and which remained in the cloth. Tipoy I. A. 838 is not typical and consists of a flat piece of weaving whose two facing edges were sewed together.

C With regard to the making of ponchos, we must mention
Ce that those of the Chiriguano consist of two pieces of woven ma-
291 terial sewed to each other in the direction of the slit of the
● 286 poncho, while Izozó ponchos most often consist of a single piece of weaving made across the entire width of the loom and therefore do not show a seam in the middle part such as Chiriguano ponchos show. From the stiff edges in the direction of the woof, it can clearly be seen that the special mechanism

/69 cont./ of the Chiriguano and the Chané-Izozó, which consists of the thread extended between the two vertical poles of the loom, was used. After finishing the work of weaving, the thread was taken out of the woven piece to transform it into a flat piece.

The slit in the ponchos woven in one piece is not made by cutting the cloth after it has been finished, but is formed in the very act of weaving. As the diagram represented in Figure 113 shows, the slit is made in such a way that in the part of the warp in which the slit is made the woof thread does not pass through the entire warp, but returns when it has passed half of it, to pass through the following division of the warp threads in the opposite direction. The result of this method of weaving is that the slit of the poncho is provided with a firm edge. We must still mention the peculiarity of the Chiriguano and Izozó ponchos, whose four sides are folded and sewed to the rest of the weaving. For that reason the ponchos of these Indians have round edges. Cf. Figures 117 and 118 /see p.187/.

Of the Izozó mantas, only one consists of two pieces of weaving sewed together. Some others have been formed from ponchos by sewing up their slits.

/70/ The men's hair bands also clearly show that they were woven on a loom like the one which we have described above and which was fitted with the thread extended between the two vertical poles of the loom. Except for only one of these bands (I. A. 659), the fringes of the rest of them all end in loops of thread in such a way that it is not possible that the warp, previously in the shape of a ring, might have later been cut. The loops of free thread at the two ends of these bands can be secured in a very different manner, as is shown by the diagrams in Figures 107-110.

The manufacture of the two men's hair bands woven of human hair and similar in form to the fajas is the same as that of the cotton bands, in addition to which the loops of the free threads are secured in a simpler manner. Cf. the diagram shown in Figure 111 /see p. 177/.

Ce /70 cont./
291
286 The manufacture of the fajas of wool or cotton is like that of the men's hair bands woven of human hair. The manner of securing the loops of the free threads at the end of the fajas is also in general the same, as Figure 111 shows, except only that the fringes consist of more than one of these loops, with the result that they form thicker, twisted threads, which end in knots.

Ce
492
286 Of the two saddle covers, one (I. A. 842) is woven in the ordinary fashion of mantas, while the other, I. A. 843, shows in its manufacture the peculiarity that each time two woof threads pass through the same division of warp threads this is done in such a way that one of these two woof threads passes through the division from left to right, and the other from right to left. The diagram shown in Figure 126 shows the course of this double woof thread and also shows how in this way they manage to make the edge of the piece of weaving firmer than it would have been had the two woof threads passed through the division of warp threads in the same direction.

C
415
286 The weaving from which the Chiriguano bag I. A. 444 was made was not made up of a fabric in the form of a manta. By sewing up the two narrower sides, there was first made a piece in the form of a sleeve, from which the bag was made by sewing the edges together, leaving only one part open for the opening.

The double bags mentioned above are made of a flat fabric of either wool or cotton thread, by folding over the two ends and sewing the edges together. The diagram shown in Figure 112 shows the flat fabric before the edges are sewed. All the outside edges of the material are secured by the process of weaving itself, since the fabric is first made in the form of a sleeve and then changed into a flat piece by removing the thread which was extended between the two vertical poles of the loom. Also, the edges, indicated in the diagram by EF, GH, EI, GL, FK, and HM, are secured by the weaving process, which was managed by passing the woof thread through the divisions of the warp, only by parts in the way we know for making the slit in ponchos. Only in those places indicated on the diagram as JL and MK are the warp threads cut in such a way that these sides of the piece

C /70 cont./
415
286 of weaving are not secured by the weaving process itself. In order to change the piece of weaving described in the foregoing into the double bag, its two ends are folded over at the dotted lines in the diagram, with the result that points A, B, C, and D are placed on top of points A/, B/, C/, and D/. Then the edges which are placed one on top of the other (OA/, QB/, PD/, and RC/) /71/ are sewed together. The parts EILG and FKMH are doubled in the opposite direction to form the tops of the double bag.

C
Ce
286 In accordance with the simple mechanism of the loom with
286 which the Chiriguano and the Chané-Izozó make their textiles,
531 the possibilities of producing variations in the ornamentation
171 of these are very limited. The variations in ornamentation of the weavings of the Chaco tribes, such as, in particular, those of the Churupí /Chulupi/, which consist of frets, zigzags, rhombuses, and many other figures, are not found among the ornamentations of the weavings of the Chiriguano and Chané.

C
Ce
286 Because today the woven goods of these Indians, especially
286 the fajas and the ponchos, are often woven with imported
531 thread or, if they are woven with native wool or cotton thread,
[171] these are often dyed with imported dyes, the different colors of the ornamentation on the surface of these weavings have no ethnological importance.

The ornamentation is formed exclusively by the warp threads, due to the fact that the distance between the warp threads is much less than the distance between the wax threads, so that the meshes of the woof disappear completely under those of the warp. Because, outside of that, the formation of the divisions of the warp threads is done by a single mechanism of loops, it can consist only of raising and lowering alternately the even and odd warp threads, for which reason the ornamentation still cannot be influenced by the process of the operation of weaving itself. The structure of this kind of weaving is necessarily such that in the direction of the woof thread, thus vertical to the direction of the warp threads, a row of the meshes formed by the odd warp threads is alternated each time with a row of the meshes formed by the even warp threads. Thus

8: Schmidt--184 E-5 (1935) 1938 SF10 Chiriguano SF10
Chane SF8
Izozo
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/71 cont./

in Figures 120-124 the first, third, fifth, seventh, ninth, and eleventh horizontal rows are formed by the meshes of the odd warp threads, numbers 1, 3, 5, and so forth, while the second, fourth, sixth, eighth, and tenth horizontal rows are formed by the meshes of the even threads of the warp, and so forth. The result of this is that all of those odd rows in the direction of the woof are like one another in structure and color, and similarly all of the even rows are like one another in the direction of the woof. Therefore the ornamentation of these weavings can only consist of continual repetition of the ornamentation set by the first two rows in the direction of the woof.

These considerations show that the only possibility of providing these weavings with different ornamentation is by varying the color of the warp threads.

The simplest ornamentation that can be done in this manner consists of simple stripes in the longitudinal direction, that is, in the direction of the warp threads. The unfinished weaving on the loom shown in Figure 104 and the manta I.A. 818 have such a decoration of simple stripes. Figure 120 shows that these stripes in the longitudinal direction are produced in such a way that at certain intervals the color of the warp threads is changed. In addition to these longitudinal stripes and in varying combinations with them, transverse stripes appear as ornamentation in these weavings. Cf. Figures 121-124 /see p. 188/. These are produced in such a way that two threads of different color alternate each time among the warp threads. Thus it comes about that the row of meshes formed by the odd warp threads are different in color from the row of meshes formed by the even threads of the warp. If a single thread of the warp has a color different /72/ from the color of the adjacent threads, dots appear in the ornamentation, as Figure 121 shows.

From the above explanations it can be seen that all the ornamentation in these weavings of the Chiriguano and the Chané-Izozó is produced exclusively by the arrangement of warp threads of different colors. The process of weaving is absolutely indifferent to the ornamentation set in the beginning by the arrangement of the warp threads.

8: Schmidt--185 E-5 (1935) 1938 SF10 Chiriguano SF10
Chane SF8
Izozo

Ce 286 415 30 126

/72 cont./

Weavings Made on a Special Loom, from the Collection

I.A. 737. Bag (Izozó). Wool. Hgt. 21 cm. Width 22 cm. (Fig. 116.)
I.A. 738. Band " " Length 1.3 cm. " 3.7 cm. (Fig. 115.)

C Ce 286 17

Because of the contacts that the Chiriguano and the Chané had for a long time with the culture of the ancient Peruvians, it is surprising that the highly developed technique of the latter should not have had more influence on the weaving technique of these Indians. The fact is that the Chiriguano even today make most of their weavings with the typical loom of the Aruaco and with the warp in the form of a ring, which they doubtless received from the Chané. Besides these ordinary looms, the forms of looms that they received directly or indirectly from the technique of the ancient Peruvians are of little importance.

Ce 286 171

The two Izozó weavings mentioned above, and in particular bag I.A. 737, are weavings that are exactly like the weavings produced to this day by the Quichua /Quechua/ and also the typical weavings of the last period of the Inca Empire.

In order to explain the appearance of such weavings among the Chané of the Parapití, we have an interesting observation by Nordenskiöld. The Indians told that author that they had learned that technique of weaving directly from a Quichua woman who had emigrated into their territory (274).

Ce [177]

274. Nord. 2, p. 178.

C 286 [177]

The Chiriguano loom for weaving bands and shown in a drawing by Nordenskiöld shows that the Chiriguano also learned to weave in the way of the ancient Peruvians (273) /fn. 273, which appears on p. 173, reads: Nord. 2, Fig. 55, N. 4./. In contrast to the manner of weaving described in the preceding, these weavings are made in such a way that the thread of the woof passes alternately through the threads of the front side of the warp and those of the back side. In addition to this, a double mechanism for the divisions of the warp threads makes possible many more variations in the ornamentation.

C
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352
126

/72 cont./

Weavings Made without a Special Mechanism for Making the Divisions of the Threads of the Warp, from the Collection

I.A. 450. Hammock (Chirig.) of wool. Lgth 2.85 m. Width 0.60 m. (Fig. 102a.)

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126
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I.A. 768. Carrying net provided with a woven caraguata band (Izozó). Length of band 49 cm. (Figs. 125 and 133.)

I.A. 802. Band for a carrying net (Izozó). Caraguata. Length 49 cm.

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[415]
[482]
[352]

With regard to their exterior structure too, the bands with which many of the carrying nets (of the Izozó and some of the Chiriguano ones) and one Chiriguano hammock are provided are similar to the weavings. But these /Plates XXXII-XXXV appear here/ /73/ objects are made without any special mechanism for making the divisions of the warp threads.

Figure 125 shows the structure of the band of the net I.A. 768. (Cf. Fig. 133 /see p.200/.) The diagram shows the way in which these bands are made. First the longitudinal threads are stretched in a way similar to the manner of stretching the warp threads of common weavings between the horizontal poles of the frame of the loom, but without using the special thread extended between the two vertical poles of the loom. Then they pass a transverse thread, which corresponds to the woof thread of common weavings, through the two rows of longitudinal threads alternately from the right to the left and from the left to the right, in such a way that this thread is left alternately under one thread of the back row of longitudinal threads and on top of one thread of the front row. Thus the manufacture of these bands and of hammock I.A. 450 is different from that of common weavings principally in the fact that the woof thread passes simultaneously through the threads of the front side and of the back side of the warp. Sundry irregularities in the course of the threads of the warp show that weavings of this kind have been made without using a mechanism for making the divisions of the warp threads.

8: Schmidt--187 E-5 (1935) 1938 SF10 Chiriguano SF10
Chane SF8
I2020

Plate XXXII

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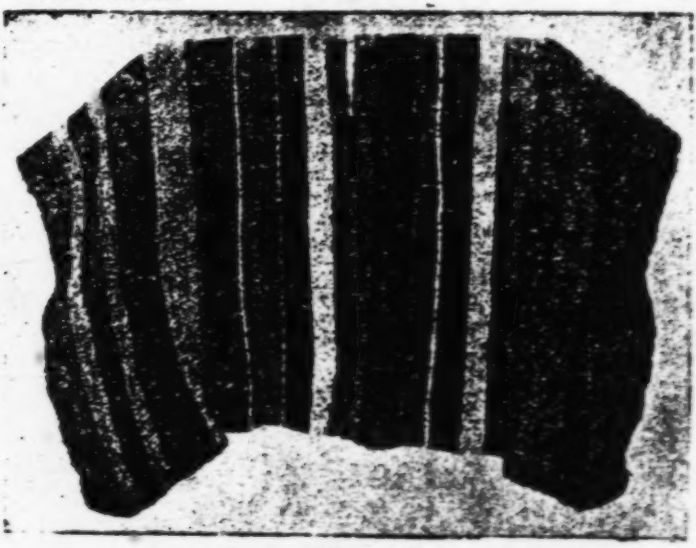

Fig. 117

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531

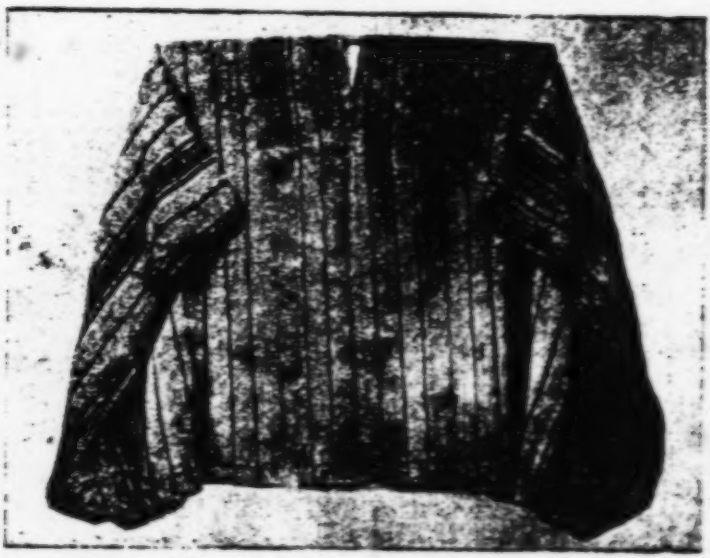

Fig. 118

/The captions appear on p. 189./

8: Schmidt--188 E-5 (1935) 1938 SF10 Chiriguano SF10
Chane SF8
Izozo
C
Ce
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Plate XXXIII

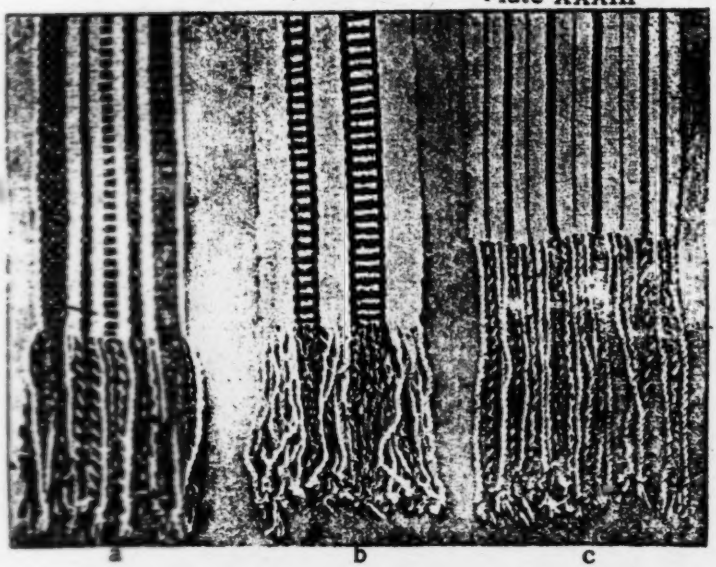

Fig. 119

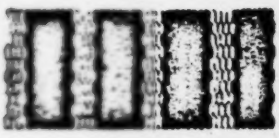

Fig. 120

Fig. 121

Fig. 122

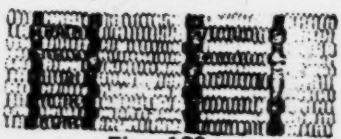

Fig. 123

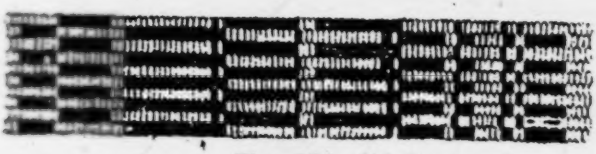

Fig. 124

/The captions are on p. 189./

8: Schmidt--189 E-5 (1935) 1938 SF10 Chiriguano SF10
Chane SF8
Izozo
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/Captions for Plates XXXII and XXXIII/

Plate XXXII. Woven ponchos, of wool.

Fig. 117. (I.A. 823) (Izozó) Width 1.30 m. Length 1.40 m.
Fig. 118. (I.A. 426) (Chiriguano) Width 1.39 m. Length 1.68 m.

Plate XXXIII.

Fig. 119. Woven fajas:
a (I.A. 436), of wool (Chiriguano), length 2.86 m., width 9 cm.;
b (I.A. 428), of wool (Chiriguano), length 2.58 m., width 11.5 cm.;
c (I.A. 803), of cotton (Izozó), length 2.58 m., width 15 cm.

Fig. 120. Ornamentation of the manta I.A. 818 (Izozó).
Fig. 121. Ornamentation of the faja I.A. 436 (Chiriguano).
Fig. 122. Ornamentation of the faja I.A. 803 (Izozó).
Fig. 123. Ornamentation of the faja I.A. 436 (Chiriguano).
Fig. 124. Ornamentation of the faja I.A. 430 (Chiriguano).

Plate XXXIV

Ce 286

C [286]

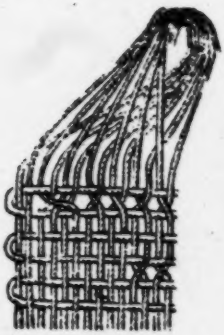


Fig. 125

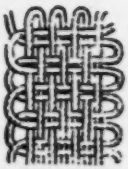


Fig. 126

Fig. 127

C [286]

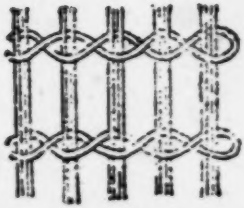


Fig. 128

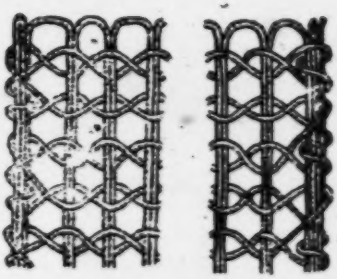


Fig. 129

Ce 415 284

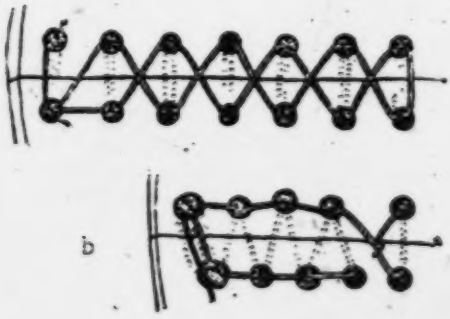


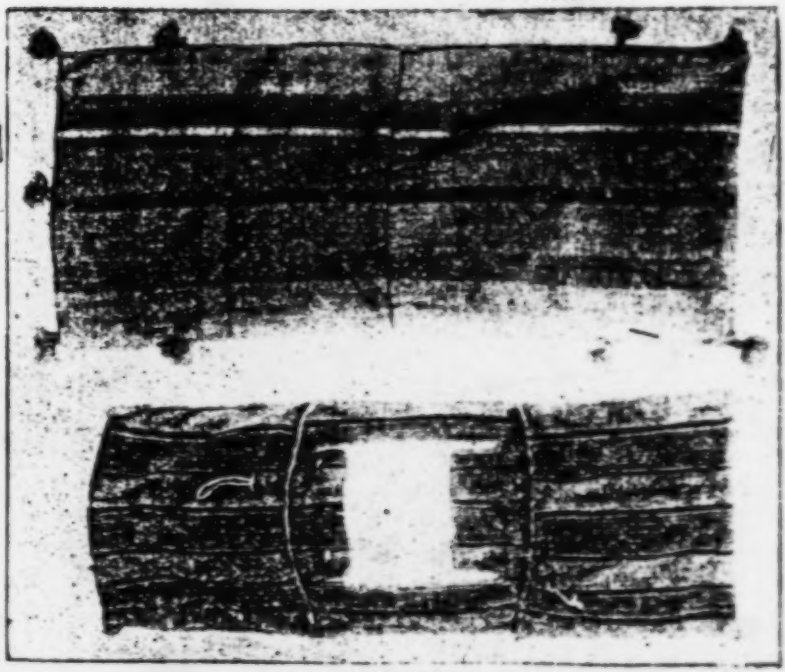
Fig. 130

/The captions are on p. 192./

8: Schmidt--191 E-5 (1935) 1938 SF10 Chiriguano SF10
Chane S 8
Izozo

C
415
286
531
[482]

Plate XXXV



C
[492]

Fig. 131

Ce
415
286
531
492

Fig. 132

/The captions are on p. 192./

8: Schmidt--192 E-5 (1935) 1938 SF10 Chiriguano SF10
Chane SF8
Izozo

Ce 286 /Plate XXXIV. Diagrams to illustrate the techniques of weaving, plaiting with "double thread," and sewing.

Fig. 125. Diagram to illustrate the technique of weaving, from the band of the net for carrying loads I. A. 768. Cf. Fig. 133 /see p. 200/ (Izozó).

Fig. 126. Diagram to illustrate the technique of weaving, from the saddle cover I. A. 843 (Izozó). Cf. Fig. 103a /see p. 174/

C 286 Fig. 127. Diagram to illustrate the technique of plaiting with "double thread," from the hammock I. A. 448 (Chiriguano). Cf. Fig. 102b /see p. 174/.

Fig. 128. Diagram to illustrate the technique of plaiting with "double thread," from the hammock I. A. 449 (Chiriguano).

Ce 286 Fig. 129. Diagram to illustrate the technique of plaiting with "double thread," from the saddle cover I. A. 844 (Izozó). Cf. Fig. 103b /see p. 174/.

Ca 284 415 Fig. 130. Diagram to illustrate the technique of sewing two cuyas:
a (I. A. 666) (Izozó);
b (I. A. 667) (Izozó).

C 531 415 286 [482] [492] Plate XXXV. Woven bags, of wool.

Fig. 131. a (I. A. 444) Woolen bag for carrying loads (Chiriguano), length 1.07 m., width 0.45 m.
b (I. A. 445) Double bag for loading horses (Chiriguano), entire length 92 cm., width 37 cm.

Ce 415 286 492 531 Fig. 132. (I. A. 811) Double bag for loading horses (Izozó), entire length 93 cm., width 46.5 cm.

St Schmidt--193 E-5 (1935) 1938 SF10 Chiriguano SF10
Chané SF8
Izozo

/73 cont./

The Technique of Making Nets

C Ce 286

The technique of making nets is widespread among the Chiriguano and Chané and is used to make various objects, such as fishnets, hammocks, nets for carrying burdens, bags, and slings. The material used for making these nets generally consists of threads made of caraguata fibers. In the collection there are two Chiriguano burden-carrying nets made of woolen threads and another one made of strips of cowhide.

C Ce [283] [324] E [482]

The common technique of making nets among the Chiriguano and the Chané is the technique called "Knotentechnik," in German, using the knot called the reef knot in English. Figure 138, a and b, shows such a "reef knot," and Figure 142 shows the technique of making nets with this "reef knot." According to Nordenskiöld (275), the Chiriguano and Chané use small

C Ce [284]

275. Nord. 3, p. 207.

rectangular boards for making their nets, like those with which we are familiar from many other tribes of South America. Unfortunately, I did not acquire such a board from the Chiriguano or from the Izozó. By continually wrapping the first board with a thread the simple loops which are shown in the diagram (Figure 142) in the upper row are formed. The thread, after having reached the other end of the board, are wrapped continuously in the opposite direction around a second board, being connected each time, with a knot, with the loops of the thread wrapped around the first board. If the thread has been looped in the manner described, until it gets to the first loop of the first row, the first board can be removed to serve in the formation of the third row of the meshes of the net, which is made in the same way as the second, but in the opposite direction. It is clear that nets made with this technique, in their simplest and least complicated form, must have a rectangular form, and this form is typical of all of the nets of the Chiriguano and Izozó, while various other South American tribes, for example, the Bakairí /Bacairi/, who formerly lived on the tributaries of the Xingú River (in Mato Grosso), make triangular nets.

C Ce [171]

8: Schmidt--194 E-5 (1935) 1938 SF 0 Chiriguano SF10
Chané SF8
Izozo

/74/ ./

Ce 286 352 126

Nets of the Collection That Are Made with the Technique Called "Knotentechnik" in German, Using the Knot Called Reef Knot in English

I. A. 360. Hammock (276) (Chané of the Parapití). Caraguata.

276. Gift of Mr. Teodoro Rojas.

Length 3.20 m. (Fig. 102c.)

I. A. 766. Hammock (Izozó). Caraguata. Length 1.80 m.

C Ce 286 415 482 126

I. A. 794. " " " " 2.70 m.
I. A. 446. Net for carrying loads (Chiriguano). Wool. Lgth 1.05 m.
I. A. 447. " " " " " " 0.75 m.
I. A. 561-564, 567, 569-571. Nets for carrying loads (Chiriguano). Caraguata. Length between 1.50 and 0.50 m. (I. A. 567, Figs. 134 and 143; I. A. 568, Fig. 144.)
I. A. 767-787; 790-792. Nets for carrying loads (Izozó). Caraguata. Length 1.60 m. and 0.65 m. (I. A. 768, Figs. 133 and 142; I. A. 772, Fig. 135.)

Ce 415 286 126

I. A. 785. Bag (Izozó). Caraguata. Length 0.82 m. Height 0.46 m.
I. A. 788 " " " 0.62 m. " 0.62 m. (Fig. 136.)
I. A. 793. Quadrangular net (Izozó). Caraguata. Length 0.90 m.

Ce [227]

I. A. 764. Implement for fishing with net (Izozó). Length 72.5 cm. (Fig. 32.)
I. A. 795-801. Nets for implements such as I. A. 764 (Izozó). Caraguata.

C 411 286

I. A. 508. Sling (Chiriguano). Caraguata. Length 15 cm.
I. A. 509. " " " 14 cm.

C Ce 286 352 227 136

From the large size of the mesh of nets I. A. 360, 766, and 794, it follows that they are hammocks. Because in Chiriguano and Chané territory there are generally no fish except small ones, nets for fishing must have considerably smaller meshes.

C Ce 415 286 482 [283]

Of the Chiriguano nets for carrying loads, two are made of wool and one of these has a band like most such nets from the Izozó. The rest of these nets from the Chiriguano and the Izozó are made of caraguata thread. Some of them have a rather small mesh, but among those of the Izozo those with big mesh are the rule.

R: Schmidt--195 E-5 (1931) 1938 SF10 Chiriguano SF10
Chaco SF8
F2020

/74 cont./

small mesh, but among those of the Izonó those with big mesh are the rule. Thus the mesh of the Izonó nets used for carrying the large water jars is also very large. Most of these Izonó nets have a special band that goes over the forehead of the bearer. The structure of these bands, which are made of caraguata, wool, or cotton, have already been described by us in the chapter on weavings. Cf. Figure 123 /see p. 200/ and the diagram shown in Figure 125 /see p. 190/.

The collection has two net bags from the Izonó which are made in such a way that the whole rectangular net is folded in the middle and the pieces which are on top of one another are laced together with a thread on the two longitudinal sides.

In the way described in the foregoing they also make the net of the fishing implement I.A. 784 described in the chapter on fishing and shown in Figure 39. Because this implement is used to catch small fish, the net has very small mesh. The slings described among the hunting implements are also made in the same way.

/75/

Burden-carrying Net Made by the Technique Called "Knotentechnik" in German, But Using the Knot Called "Sheet Knot" in English from the Collection

I.A. 573. Net for carrying loads (Chiriguano). Strips of animal hide. Length 0.85 m.

This net is made like the nets described in the foregoing, made of knots, but the knot used is the type called "sheet knot" in English and "Schotenstich" in German. This knot is shown in Figure 138, c and d. According to Nordenskiöld (277), the

277. Nord. 2, p. 194.

Chiriguano also have fishing nets which are made using this type of knot.

/35 cont./

Nets in the Collection That Are Made with Loops and without the Use of Knots

I.A. 555-566. Net for carrying loads (Chirig.). Lgth. 0.97 m. 1.80 m.
I.A. 567. " " " " " " 1.15 m. (Figs. 134 and 143.)
I.A. 568. " " " " " " 1.70 m. (Fig. 144.)

From the Chiriguano I obtained several nets for carrying burdens, which are made without using knots, by connecting the thread in the fashion illustrated by Figures 143 and 144 and which is common among many tribes of the Chaco, as happens among the Tapiété, Matako /Mataco/, Toba, Chorote /Chorote/, and Churupí /Chulupí/.

The great number of nets that I acquired from the Izoceño are made with knots without exception, and we must therefore assume that these Indians are not familiar with or do not use the technique of making nets with simple loops and without applying knots, and that this technique, called "Schlingen-knüpf" in German, is used only by the Chiriguano or a part of them. Nordenskiöld does not mention this technique among the Chiriguano, and in the synoptic outline in which the several techniques of making nets are illustrated the Chiriguano are not mentioned in Column 5 among the Indian tribes which use the technique of making nets without applying knots. Of the burden-carrying nets made of caraguata thread that I acquired from the Chiriguano, ten are made without knots being applied, by the technique called "Schlingtechnik," and only seven by applying knots by the technique called "Knotentechnik." We can therefore assume that this part of the Chiriguano at least uses the technique of making nets without applying knots, although this opinion is contrary to that of Nordenskiöld, who says (278) that

278. Nord. 2, p. 116.

all of the nets made by this technique found among the Chiriguano and the Chané were acquired from the Chaco Indians.

B. Schmidt—200 B-6 (1901) 1:60 37 A Chirigwara 371
Chart SF8
Z3020

Plate XXXVI

Fig. 133

Fig. 134

Fig. 135

Fig. 136

[The ... are on p. 363.]

☆ Schmidt--201 E-5 (1935) 1938 SF10 Chiriguano SF10
Chaine SF 8
3 20 20

Plate XXXVII

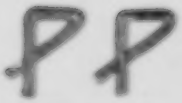


Fig. 137

Fig. 138

Fig. 141

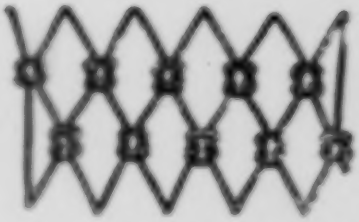


Fig. 142

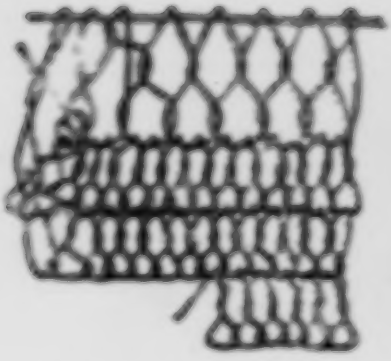


Fig. 143

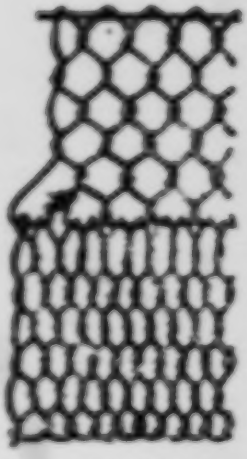


Fig. 144

(The captions are on p. 202.)

8: Schmidt--202 E-5 (1935) 1938 SF10 Chiriguano SF10
Chané SF8
Izozo

/Captions for Plates XXXVI and XXXVII/

Fig. 133. (I. A. 768) Net for carrying loads, made with the technique using knots (Izozó). Length 1.33 m. Cf. Figs. 125 /see p. 190/ and 142 /see p. 201/.

Fig. 134. (I. A. 567) Net for carrying loads, made with the technique without knots (Chiriguano). Length 1.15 m. Cf. Fig. 143 /see p. 201/.

Fig. 135. (I. A. 772) Net for carrying loads, made with the technique using knots (Izozó). Length 1.18 m.

Fig. 136. (I. A. 788) Bag made with the netting technique using knots (Izozó). Height 0.62 m. Length 0.62 m.

Plate XXXVII.

Fig. 137. Diagrams of twisted threads: a, twisted to the right; b, twisted to the left.

Fig. 138. Diagram of the two different knots applied in the making of nets: a and b, "reef knot"; c and d, "sheet knot."

Figs. 139-141. Diagrams of the plaited middle parts of three cotton bands for women's hair (Izozó): Fig. 139 (I. A. 649); Fig. 140 (I. A. 652); Fig. 141 (I. A. 646).

Fig. 142. Diagram of the technique of the net for carrying loads I. A. 768, using the knot called "reef knot" (Izozó). Cf. Fig. 133 /see p. 200/.

Fig. 143. Diagram of the technique of the net for carrying loads I. A. 567, made only with loops, without knots (Chiriguano).

Fig. 144. Diagram of the technique of the net for carrying loads I. A. 568, made only with loops, without knots (Chiriguano).

Cc 482 489 492 /78 cont./ concerning means of transport by land we do not have any evidence except through the sundry implements which serve for carrying burdens. We can assume from the form of the double bags mentioned in the chapter on weaving that they use their horses and burros to transport loads.

Cc 286 415 482 [484] The objects used to transport burdens have already been mentioned in preceding chapters. Among them the most general is the carrying net, which often has a band. By means of it burdens are carried on long trips or the fruits of the harvest are brought in from the fields to the houses, or water is brought, often from a distance, to the dwellings. The carrying net is used in such a way that the band goes across the forehead of the bearer so that the weight of the burden rests on his back (292).

292. See Nord. 2, p. 95.

Nordenskiöld has published a photograph of a woman who is carrying a load in her net (293).

293. Nord. 1, Fig. 87.

Cc 415 482 [854] Baskets are not used by the Chiriguano and Chané for carrying loads; they are used among these Indians only to store things. Neither is any special band used to carry infants; rather they are carried in a fold of the tipoy.

Only if water is near the house are water jugs sometimes carried on the shoulder without a net, but not on top of the head. Cc [177] This latter appears only in the cases where the Indians are directly influenced by the whites, as happens in the missions (294).

294. Nord. 2, p. 95.

Cc [484] For carrying small amounts of water when traveling, these Indians also use calabashes enlaced with string, or small baked clay vessels /79/ provided with a string or a leather strap, such as, for example, the vessel I. A. 617 shown in Figure 56b.